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## ABSTRACT

The instruction manual contains lessons for teaching severely physically and/or neurologically handicapped students to use the seven-key Cybertype electric writing machine. Unlike the 14-key keyboard, which requires bilateral coordination in arms, legs, or other parts of the body, the seven-key keyboard requires the use of only one part of the body, such as a single limb. The seven-key keyboards are operated by touching two keys, constituting a pair, sequentially. The instruction manual explains the possible configurations of Cybertype keyboards and the codes which identify the different keying positions. Fifteen lesson plans for seven-key dual-sequential keyboard are presented. Teaching guidelines are accompanied by training exercises and practice sentences. Over half the document consists of supplementary typing exercises and practice material. (See also EC 030 060, EC 050 266-050 268, EC 050 270.)  
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## C/R/I Final Report

Project No. 18-2003 and 7-0533

Grant No. OEG2-7-070533-4237(607)

# STUDY OF MAN-MACHINE COMMUNICATIONS SYSTEMS FOR DISABLED PERSONS (THE HANDICAPPED)

VOLUME VI

HAIG KAFAFIAN

CYBERNETICS RESEARCH INSTITUTE

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June 19, 1971

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
OFFICE OF EDUCATION  
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Project No. 18-2003  
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EXPERIMENTAL INSTRUCTIONAL MATERIALS  
FOR C/R/I FIELD CENTERS

Volume VI

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INSTRUCTION MANUAL FOR 7-KEY "CYBERTYPE"  
MAN-MACHINE COMMUNICATIONS SYSTEM

First Edition

This volume together with those listed below comprise the series of reports, demonstration guides, evaluative procedures, and instructional and training materials prepared under Project Nos. 7-0533 and 18-2003, Grant No. OEG 2-7-070533-4237 (607), for the Bureau of Education for the Handicapped, Office of Education, Department of Health, Education, and Welfare.

|  |                  |
|--|------------------|
| C/R/I Interim Report, 1968 . . . . .   | Interim          |
| C/R/I Second Report, 1970 . . . . .  | Volumes I and II |
| C/R/I Final Report, 1971 . . . . .   | Volume III       |
| C/R/I Demonstration Guide and Materials . . . . .  | Volume IV        |
| C/R/I Instruction Manual for 14-Key "Cybertype"<br>Man-Machine Communications System . . . . .                     | Volume V         |
| C/R/I Instruction Manual for 7-Key "Cybertype"<br>Man-Machine Communications System . . . . .                      | Volume VI        |
| C/R/I Instruction Manual for a "Cybertype"<br>Tongue-Body Interface Man-Machine<br>Communications System . . . . . | Volume VII       |

A master errata sheet will be compiled from these volumes, and sent to their recipients. Your suggestions and help will make the experimental volumes more useful to researchers, teachers, and other readers, and will be of great value in preparing any revisions.

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**PREFACE**

**INSTRUCTION MANUAL FOR  
CYBERTYPE® MAN-MACHINE COMMUNICATIONS SYSTEM**

**7-KEY INTERFACES**

This first edition of the Instruction Manual for the 7-key "Cybertype" interfaces was designed as a guide for introducing the keying-codes and experimental teaching programs to researchers and teachers at the C/R/I Field Centers working with severely physically and/or neurologically handicapped students who have the cognitive resources to learn, who know the English alphabet, and who have comprehension of word formation and sentence structure.

The introductory section includes, among others, descriptions of various types and configurations of "Cybertype" interfaces or "keyboards" and codes which assign letters, symbols, and typewriter functions to the keying positions of the interfaces. Illustrations of keying positions, and the organization of lesson plans are presented.

Lesson plans for Cybertype® instruction and a set of Supplementary Instruction Materials are also part of this Instruction Manual. The teacher is encouraged to modify the contents in order to meet the students' requirements. The format is straightforward and can be followed in the event changes are made.

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## C/R/I INSTRUCTION MANUAL FOR CYBERTYPE™

### COMMUNICATIONS SYSTEMS\*

#### INTRODUCTION

Physically handicapped children and children with neurological dysfunctions are often unable to provide the muscular coordination and dexterity necessary to communicate in written form, either by handwriting or by operating the 49 keys of an ordinary electric typewriter. These handicaps especially when accompanied by language impairments and specific learning disabilities, severely impede further development of intellectual and verbal potentialities. As a result, many multiply handicapped individuals, especially children who potentially have the intellectual competence to become self-sufficient contributing members of society, are institutionalized because their motor capabilities appear too limited for independent and practical functioning.

In spite of the apparent hopelessness of many children with multiple handicaps, it has been demonstrated that it is often possible to employ cybernetic systems which permit use of the individual's remaining motor capabilities.

Cybernetics Research Institute (C/R/I) is presently conducting

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\*This Instruction Manual is intended for research purposes only, and is not intended to represent the final version which is in the process of being developed.

1. Kafafian, Haig. Study of Man-Machine Communications Systems for the Handicapped. U.S. Office of Education, Bureau of Education for the Handicapped, Project No. 7-0533, C/R/I Interim Report, August 19, 1968.
2. Kafafian, Haig. Study of Man-Machine Communications Systems for the Handicapped. U.S. Office of Education, Bureau of Education for the Handicapped, Project No. 18-2003, C/R/I Second Report, February 19, 1970.

research for the purpose of studying severely disabled students' ability to communicate by means of the CYBERCOM™ family of man-machine systems. Children who have the cognitive ability but whose other disabilities preclude cursive writing or operation of ordinary typewriters are being studied through observation and testing. Where possible, man-machine systems are provided to the students with interfaces which match the students' remaining performance characteristics, thereby enabling them to operate electric writing machines and/or other communication and control systems.

The materials presented in the C/R/I Instruction Manual are also intended to serve the teacher of exceptional children as an introduction to a teaching guide for "Cybertype" man-machine communications systems, and provide them with an organized program of instruction for these systems together with appropriate training, testing and exercise materials. The C/R/I Manual is also intended for use as a guide in teaching children individually or in groups. Care should be taken in selections of the appropriate interface or "keyboard" and special instructional materials, if necessary. Substitute exercises and other special materials, if needed, should be determined by the teacher or researcher.

#### Description of Basic "Cybertype" Keyboards or Interfaces \*

The basic characteristics underlying the "Cybertype" system involve the concept of "dual-input". That is, instead of requiring operation of one key at a time to produce typed letters, symbols, or functions, as with an ordinary typewriter keyboard, the "Cybertype" systems operate from dual-inputs which may be bilaterally or unilaterally controlled.

Two inputs must be provided, that is, two keys (or one key which serves the purpose of two keys) are operated at one time, or they may be operated in sequence. Although dual-input operation may seem unusual at first, as compared to single-input operation, dual-input systems offer the advantages of simplified keyboard arrangement and flexibility permitting interface matching to the performance characteristics of the human operator. Another advantage, and an important one, is that the

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\*The term "interface" here refers to the keyboard or control mechanisms which are the point of contact between user and typewriter. In the case of an ordinary electric typewriter, the keys of the 49-key keyboard may be identified as the "interface". With a "Cybertype" system, which is for a typewriter or other office or computational machines, the 14-key, 7-key, or 2-key keyboards or single-key control, or other interface configurations constitute the interface.

keying code is easy to remember. With a little practice, the users do not have to refer to charts or marked keys once they have learned the code. Only two basic coding relationships are necessary to remember, e.g., 1 and 1 for the typewriter "space" function, 1 and 2 for the letter E, 1 and 3 for the letter T, 1 and 4 for the letter A, etc.

### Interface Configurations

One configuration of the 14-key "Cybertype" keyboard interface consists of 14 finger or prostheses-operated keys, arranged in two groups of 7 keys each, as shown in Figure 1. Typically, key-tops on this type of interface are  $1/8 \times 1/2$  inch in size, with a lateral separation between keys of one inch center-to-center. For purposes of identification, keys are numbered from 1 to 7 in right and left hand banks (See Figure 1). This numerical identification of keys should be remembered, since it will be referred to frequently in this Manual. Some keyboard interfaces include an ON/OFF toggle switch and pilot light, as shown in Figure 1.

The 14-key keyboard is electrically connected to an electric typewriter which provides the printed output. Each letter, symbol or function to be produced is assigned to a pair of keys, one key in each of the two banks.

In this configuration of the dual-input interface, two keys are operated together using a finger of the right hand for the keys identified as the "Function Keys" or the right bank of keys, and a finger of the left hand for the left bank identified as the "Control Keys." It has been found that many students who lack the manual coordination and dexterity necessary to strike individual keys on the 49-key interface of an ordinary typewriter, can, with little difficulty, strike pairs of keys on the 14-key, dual-input interface, using one finger of each hand, prostheses, or other parts of the body when, larger keyboards are used. The small area to be covered, the minimum number of keys on the interface, the large key-tops and spacing of keys, the ease of learning the keying positions, and the minimum coordination required, bilaterally or unilaterally, are all factors which may contribute to the ease with which the "Cybertype" can be operated by individuals who are physically and/or neurologically disabled, but who have the cognitive and sensory capabilities.

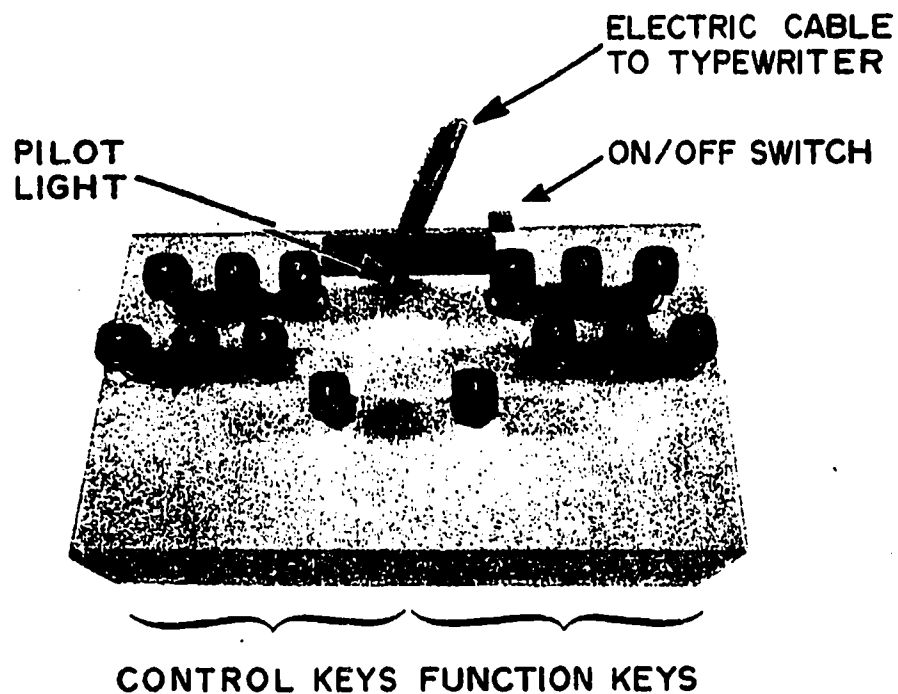
### Interface Coding

The code assigning letters to pairs of keys of most of the interfaces is based on the frequencies of letter usage in the English language. Although various studies have revealed slight differences in letter frequencies, the "Cybertype" code described in this Manual is based on the following order of letters from most frequent to least frequent:

ETAONIRSHDCLMUFPYBGWVJKQZX

Figure 1

"Cybertype," 14-Key, Dual-Input  
Interface for Finger Operation



For a right hand dominant individual, each of the six most frequently used letters (E-T-A-O-N-I) and the typewriter "space" function can be produced by activating one key on each side of the keyboard. As shown in Figure 2, these letters and functions are produced by activating Key No. 1 of the left bank of keys, combined with individual keys of the right bank. For identification and descriptive purposes as noted earlier, the seven keys on the left side of the interface are referred to as "Control Keys" and the seven keys of the right group are referred to as "Function Keys" (Figure 1).

The other letters and the "period" are assigned to the second, third, and fourth control keys on the left side of the interface, paired with "Function Keys" of the right-hand bank (Figure 2 ). Numerals, other symbols and typewriter functions are assigned to "Control Keys" 5, 6, and 7 (see Figure 3).

The assignment of certain typewriter symbols, such as "!" and "+" depends on the model of typewriter used with the "Cybertype." The code for numerals, symbols, and functions shown in Figure 3 applies to the IBM\* "Selectric" typewriter with "Prestige Elite," "Courier," "Letter Gothic," or "Delegate" type styles. The code for the IBM Models C and D differ slightly.

Through the use of a "code-reversal junction box," which connects the interface(s) to a "cybertypewriter," the key assignments for left and right-hand key groups can be interchanged, for operation by a left-hand dominant individual.

This Instruction Manual is meant for right-hand dominant individuals, and the "Control Keys" on the left side of the interface and "Function Keys" on the right side should be "reversed" if the students are left-handed. Thus, for a left-hand dominant student, the teacher may use the "code-reversal junction box" in place of the usual junction box, thereby shifting the "Control Key" positions to the right side and the "Function Keys" to the left side of the "Cybertype" keyboard. It is important to note that no data is available at this time to support this reversal and teachers may be guided accordingly.

#### Other Interface Configurations

Interface configurations other than the 14-key, finger-operated keyboards are employed where they more effectively match the remaining performance capabilities of the individual. For example, many persons lack

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\*Trademark - International Business Machines Corporation, Armonk, N. Y.

Figure 2

Keying Positions for Letters,  
Typewriter Space, and Period  
with the "Cybertype," 14-Key Interface

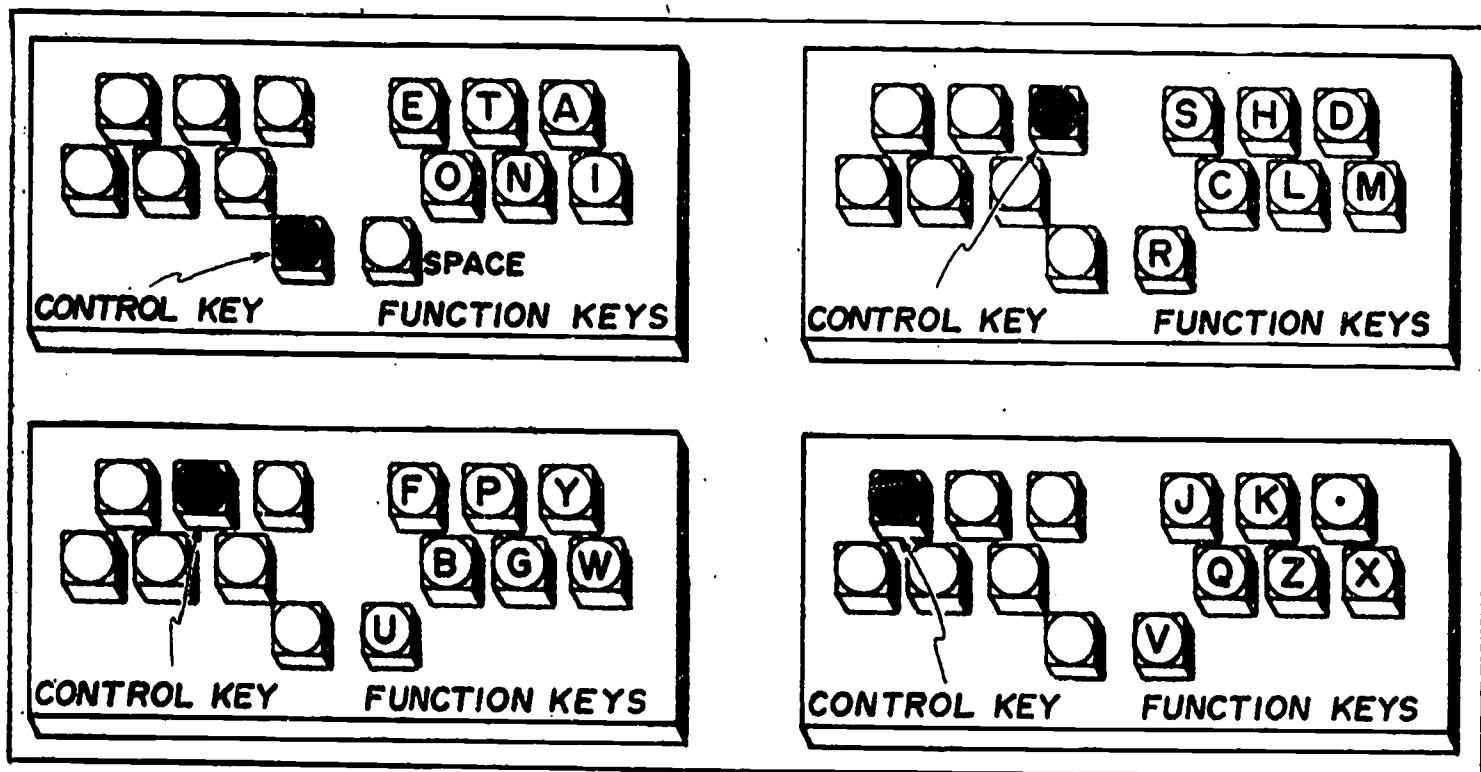
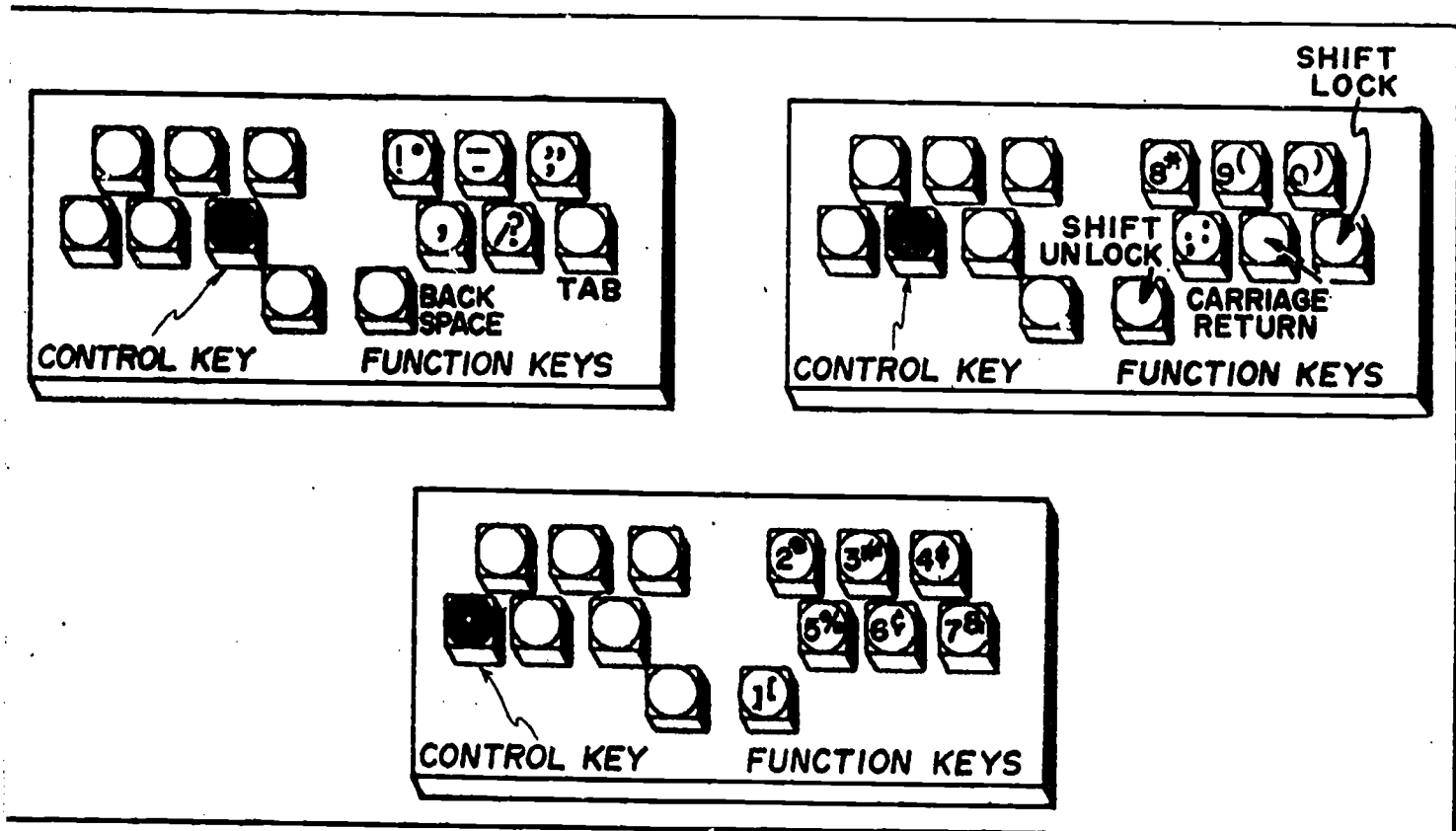


Figure 3

Keying Positions for Numbers,  
Symbols, and Typewriter Functions  
with the "Cybertype," 14-Key Interface





the coordination and dexterity necessary to operate keys with their fingers, but retain some control to provide gross motor coordination in hands and arms. They may be provided with "fist-controlled" interfaces, one configuration of which consists of 14 large keys with wide spacing, and key-tops with a diameter of one inch and a lateral separation between keys (center-to-center) of two and a quarter inches (see Figure 4). This configuration can be operated with the parts of the upper limbs, e.g., thumbs, fingers, fists, or heels of the hands.

Another type of interface, the "foot-keyboard," consists of key-tops with a diameter of one and a half inches, and a center-to-center lateral separation of three inches (Figure 5). These interfaces can be operated with the fists, heels of the hands, or other parts of the body by persons whose manual coordination is not sufficient for the smaller fist keyboard. In addition, they can be operated with the feet by individuals with virtually no ability to coordinate arm movements, or by upper-limb amputees. For foot-operation, the interface is placed in an appropriate position, either on the floor or a stand, with the user seated in a chair adjusted to the proper height so that the weight of the legs is supported by the edge of the seat, and feet "float" just at the level of the key-tops. In this position, keys can be actuated by simple toe depressions.

Since the configuration or spatial arrangement of keys in these interfaces is similar to that shown in Figure 1, the letter-keying code is as shown in Figures 2 and 3.

### The Cybertype Unilateral Keyboards

Individuals who are unable to provide controlled bilateral coordination in arms, legs, or other parts of the body, employ the dual-input sequential interfaces, which consist of seven typing "Function Keys" and a "reset" or "correction" key. These interfaces require the use of only one part of the body, such as the tongue, a single limb, or other portion of the body which can be controlled.

The 7-key keyboards, two versions of which are shown in Figure 6, may be operated by actuating two keys, constituting a pair, sequentially. The first key depressed may be considered to correspond to the left bank or the "Control Key" side of a 14-key interface, and the second key depressed to the right bank or "Function Key" side of a 14-key interface. Thus, striking Key No. 1 followed by Key No. 2 will produce the letter "E." As with a 14-key interface, there are 7 x 7 or 49 possible pairs of dual-inputs which allow production of all the characters and functions available on the typewriters used. See Figure 6.



Figure 4  
"Cybertype," Dual-Input Interface for  
Fist or Hand Operation

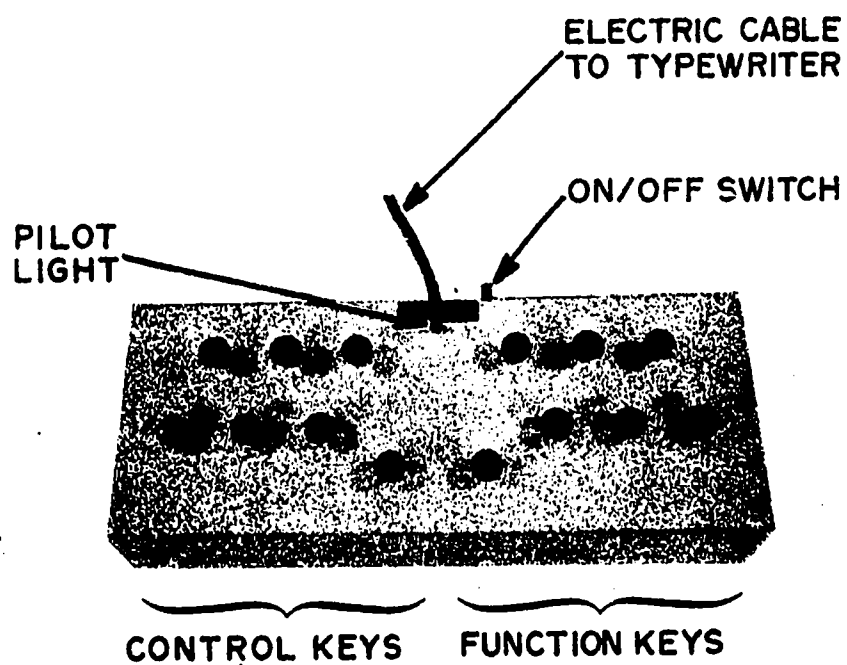


Figure 5

"Cybertype," Dual-Input Interface for  
Fist or Foot Operation

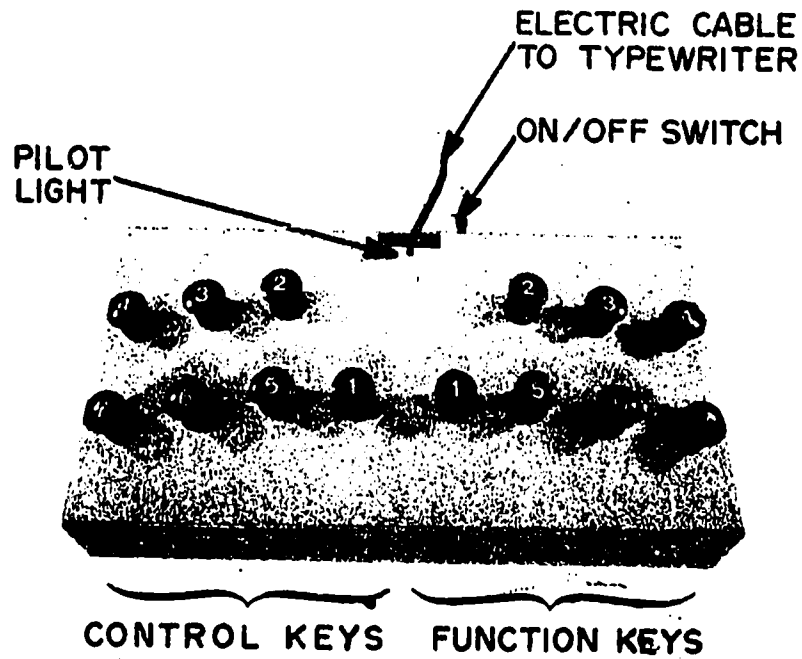
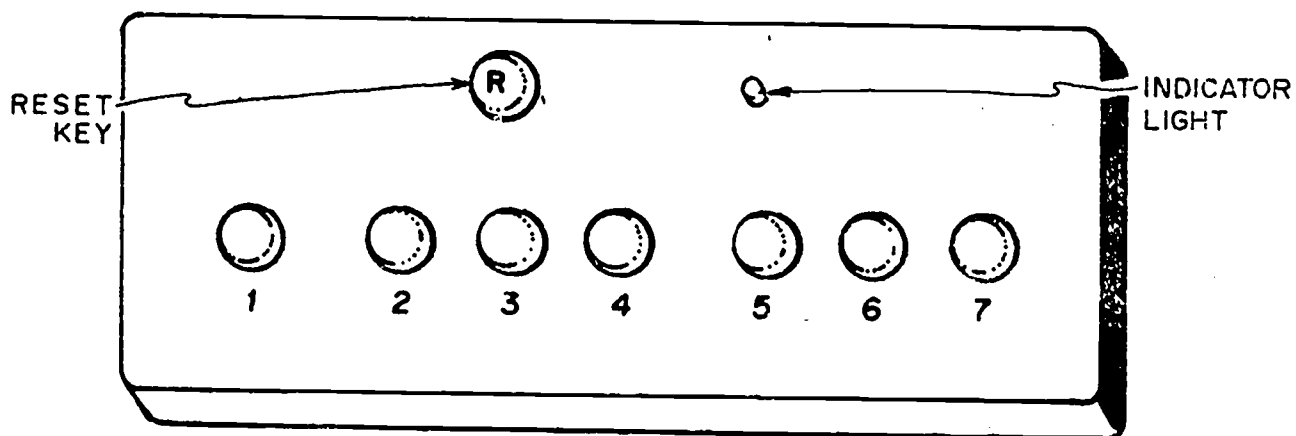
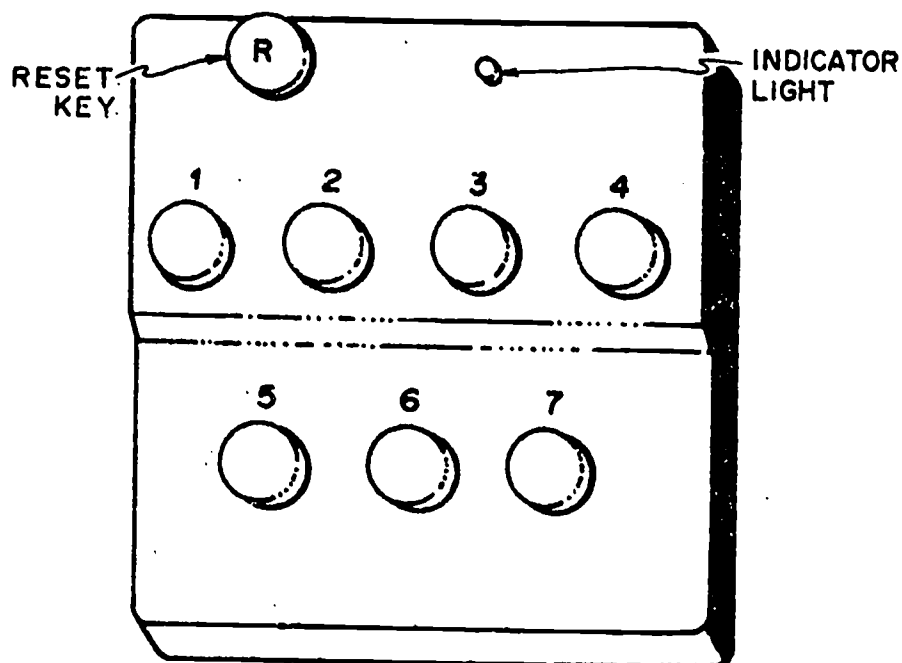


Figure 6

"Cybertype," Dual-Input Sequential Interface  
for Operation with a Single Limb



a) Dual-Input Sequential Interface: Single Row



b) Dual-Input Sequential Interface: Double Row

Figure 7

Letter-Keying Code for 7-Key, Dual-Sequential Interface

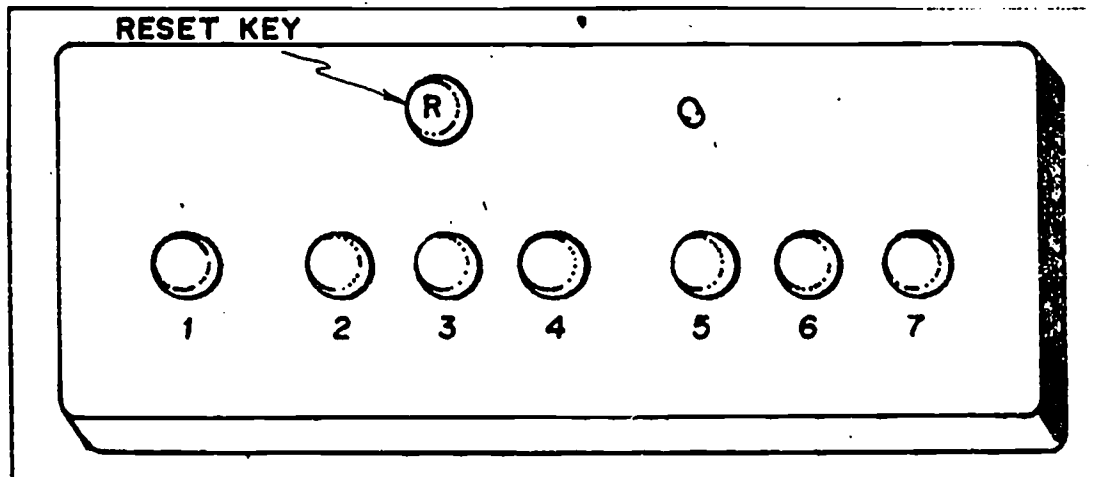


Diagram of 7-Key, Dual-Sequential Interface

| Typewriter Functions |       | Dual-Sequential Keying Code<br>First and Second Key Nos. |
|----------------------|-------|--|
| LC*                  | UC**  |  |
|                      | Space | 1, 1   |
| e                    | E     | 1, 2   |
| t                    | T     | 1, 3   |
| a                    | A     | 1, 4   |
| o                    | O     | 1, 5   |
| n                    | N     | 1, 6   |
| i                    | I     | 1, 7   |
| r                    | R     | 2, 1   |
| s                    | S     | 2, 2   |
| h                    | H     | 2, 3   |
| d                    | D     | 2, 4   |
| c                    | C     | 2, 5   |
| l                    | L     | 2, 6   |
| m                    | M     | 2, 7   |

\* Lower Case

\*\*Upper Case

Typewriter  
Functions

LC\*    UC\*\*

Dual-Sequential  
Keying Code  
First and  
Second Key Nos.

|   |   |      |
|---|---|------|
| u | U | 3, 1 |
| f | F | 3, 2 |
| p | P | 3, 3 |
| y | Y | 3, 4 |
| b | B | 3, 5 |
| g | G | 3, 6 |
| w | W | 3, 7 |
|   |   |      |
| v | V | 4, 1 |
| j | J | 4, 2 |
| k | K | 4, 3 |
| . | . | 4, 4 |
| q | Q | 4, 5 |
| z | Z | 4, 6 |
| x | X | 4, 7 |

|       |   |      |
|-------|---|------|
| Back  |   |      |
| Space |   | 5, 1 |
| !     | ° | 5, 2 |
| -     |   | 5, 3 |
| '     | π | 5, 4 |
| ,     |   | 5, 5 |
| /     | ? | 5, 6 |

|          |  |      |
|----------|--|------|
| Tab      |  |      |
| Function |  | 5, 7 |

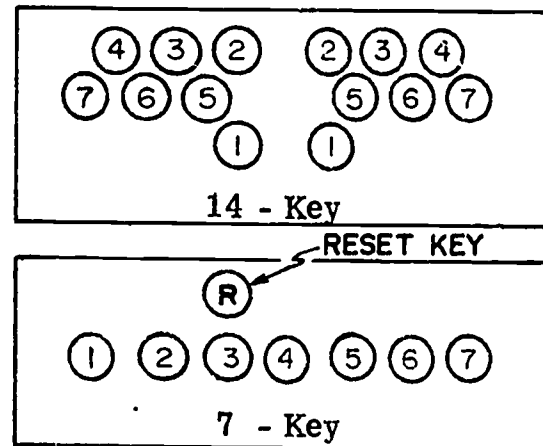
|             |   |      |
|-------------|---|------|
| LC* ("Shift |   |      |
| Unlock")    |   | 6, 1 |
| 8           | * | 6, 2 |
| 9           | ( | 6, 3 |
| 0           | \ | 6, 4 |
| ;           |   | 6, 5 |
| Carriage    |   |      |
| Return      |   | 6, 6 |
| UC* ("Shift |   |      |
| Lock")      |   | 6, 7 |

\* Lower Case  
\*\*Upper Case

| Typewriter Functions |      | Dual-Sequential Keying Code<br>First and Second Key Nos. |
|----------------------|------|--|
| LC*                  | UC** |  |
| 1                    | .    | 7, 1   |
| 2                    | @    | 7, 2   |
| 3                    | #    | 7, 3   |
| 4                    | \$   | 7, 4   |
| 5                    | %    | 7, 5   |
| 6                    | ¢    | 7, 6   |
| 7                    | &    | 7, 7   |

\* Lower Case

\*\*Upper Case

Outline showing key-identifications  
7 and 14-Key Keyboards

If the incorrect "Control Key" is depressed inadvertently, the "reset key," which is located near the rear edge of the interface as shown in Figure 6, may be struck in order to clear the system immediately. After the "reset key" is depressed, the correct first key of the key-pair can be actuated, followed by the keying of the second key of the key-pair assigned to the desired letter. If there is an error on the first key struck, "automatic correction" may be achieved without use of the "reset key." All that is required is that the user wait until the red "indicator light" located on the keyboard goes out.

The red "indicator light" (shown in Figure 6) is always illuminated upon initial striking of the first key of each key-pair keying combination. When the second key of the key-pair is actuated, the typed response or typewriter function occurs and the "indicator light" goes out by itself.

The letter-keying code for the 7-key, dual-sequential interface is equivalent to that for the 14-key systems, and is shown in Figure 7. The 7-key interface configurations offer considerable flexibility and can be operated not only with a fist, foot, or tongue, but also with a "unicorn," a helmet-mounted stick, or "mouth stick." The interface shown in Figure 6b (4 keys in the upper row, 3 keys in the lower row) consists of somewhat larger key-tops and is suitable for operation by persons who have limited control.

The styles and types of keyboards or interface configurations for use

with the "Cybertype" writing machines are almost unlimited. Variations of muscle and body-controlled transducers or keyboards operable from signals generated by the central nervous system, tongue-controlled keyboard, "joy-stick," glove, and lever-actuated switches, together with numerous other interface configurations operable with the aid of prostheses or orthoses can be selected to match the remaining motor capabilities of the disabled person.

### Organization of Lesson Plans

This Instruction Manual is organized into 15 lessons. Each lesson should generally last about one hour, and one lesson should be given each day, four or five days a week. This is based on the experience of teachers who have had a high degree of success with their students, all of whom have been children with multiple impairments.

When working with a group of students, a prerequisite is that the teacher, with the aid of each student, select the appropriate interface out of the set of interfaces provided with the system. If only one writing machine in the classroom is available, all of the students' and the teachers interfaces may be connected to it, as shown in Figure 8. Children may be introduced as a group or individually to the teacher's demonstration of the keying positions of the appropriate keyboard or interface. They should practice operating the interface selected for their use following the procedures enacted by the teacher.

During these group practice sessions, those interfaces which are not used to operate the "Cybertypewriter" are either disconnected from the junction box or if equipped with switches, they are turned off. Each student can then be given individual attention in practicing the exercises which accompany each lesson, with or without activating the "Cybertypewriter." At individual practice sessions the student's interface switch is connected to the junction box or turned "on," so that the desired exercises are typed.

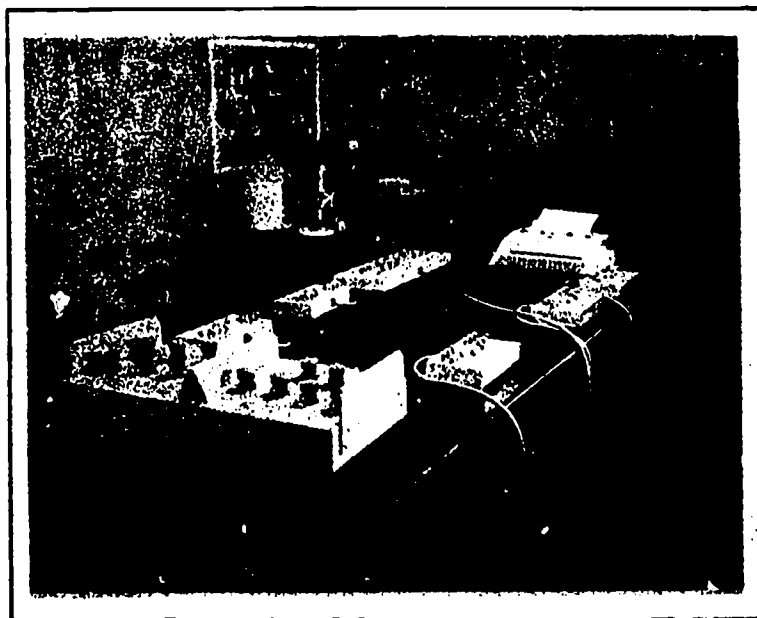
In the meantime, other students whose interfaces are turned "off" are not precluded from practicing; they may practice their exercises by "keying" their interfaces, even though no typewritten output is obtained. Ordinarily, more than one "Cybertype" should be in the classroom, and the teacher can observe each member of the group and obtain typewritten copy for each student in the group by looking at the monitor "Cybertype."

### Cyber-Circus Story

The Appendices to this Manual include a "mnemonic" or memorization aid called the "Cyber-Circus Story." The characters and events in this story are related to letters and symbols and to their "Cybertype" keying positions.

**Figure 8**

**A Variety of "Cybertype" Interfaces  
Connected to a Single Electric  
Typewriter for Group Instruction**





This story has power to be a valuable aid to memorization with the subjects tested. It appears to develop enthusiasm and increase the student's motivation in learning to use the "Cybertype" and perform more effectively in their other activities. The story is compatible with the lesson plans in this text.

### Supplementary Materials

The Appendices include a "Supplementary Materials" section which provides practice exercises to be used in augmenting the exercises included with each lesson. The teacher may review the Supplementary Materials section and select appropriate exercises which would serve as additions to the regular lesson plans.

It is recognized that students' age levels, cognitive, motor, and sensory capabilities contribute toward their rate of progress. The teacher is encouraged to constantly consider these factors and employ a teaching plan which will have the greatest probability of being effective for a particular student or group of students. It should be remembered that all of the experimental instruction materials were developed for a research study and evaluation program, whose principal objective was to determine the feasibility of the "CYBERCOM" man-machine communications systems.

THE C/R/I  
"E-T-A" ALPHABET CHART

The "E-T-A" ALPHABET CHART consists of a sequence of letters of the English alphabet derived from a composite of letter-frequency analyses<sup>1</sup> of English language texts. Its purpose is to acquaint the learner of "Cybertype" interfaces or keyboards with the letters of the alphabet, sequentially commencing with letters E, T, A, etc., in order of decreasing frequency usage.

It has not been determined whether more rapid learning of keying codes with retention and reinforcement through introduction of the most frequently used letters is accomplished by introducing letters in this manner, rather than A, B, C, etc.

The "space" function appears initially in the chart since it is most frequently used when typing.

|         |   |   |
|---------|---|---|
| "Space" | H | B |
| E       | D | G |
| T       | C | W |
| A       | L | V |
| O       | M | J |
| N       | U | K |
| I       | F | Q |
| R       | P | Z |
| S       | Y | X |

<sup>1</sup>Kafafian, (C/R/I Interim Report, 1968.)

LESSON PLANS  
FOR THE  
7-KEY (DUAL-SEQUENTIAL) INTERFACE

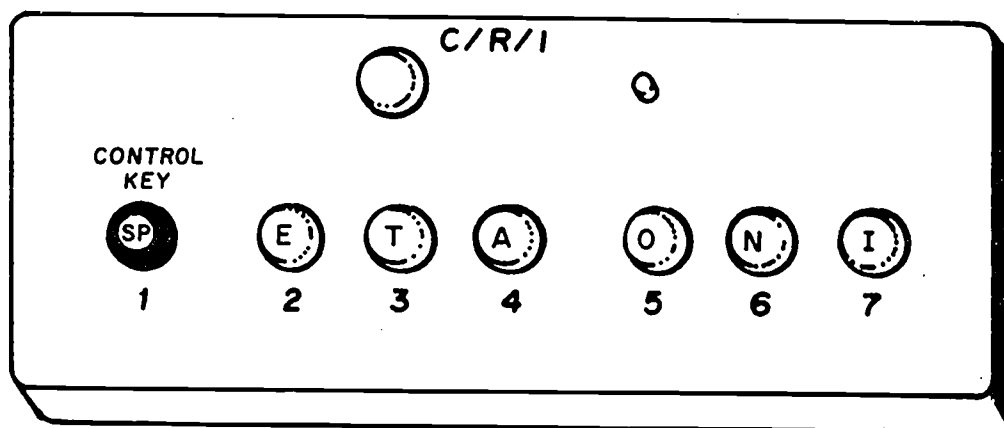
| <u>Lesson No.</u> | <u>Page</u> |
|-------------------|-------------|
| 1                 | 20          |
| 2                 | 23          |
| 3                 | 25          |
| 4                 | 29          |
| 5                 | 31          |
| 6                 | 33          |
| 7                 | 37          |
| 8                 | 40          |
| 9                 | 42          |
| 10                | 46          |
| 11                | 48          |
| 12                | 50          |
| 13                | 55          |
| 14                | 61          |
| 15                | 65          |

## LESSON 1

Before teaching students any of the "Cybertype" letter-keying associations, introduce them to the equipment by explaining how it operates. One way to simplify this task is to demonstrate the similarity of keys on the keyboard to an electric light switch. For example, point out that when a switch is turned on, somewhere in the room a light appears. Similarly, when keys of the "Cybertype" keyboard are depressed, signals are sent through an electric cable to the typewriter which types letters and symbols. Modifications of this explanation can be devised according to the age group under consideration.

Teachers are urged to review the C/R/I Second Report\* for details and descriptions of the initial "Cybertype" instruction programs.

The functions to be introduced in this first lesson are: "Space," E, T, A, O, N, I. Note that Control Key No. 1 in coordination with the other keys is used to produce these characters. The interface diagrammed in these lessons is the one with a single row of seven keys (Figure 6a, page 12), but the same numbered key sequences are used for the interface in Figure 6b, page 12 (top row of 4 keys, bottom row of 3 keys).



Students should be shown the locations of these seven functions (in the order presented above), and should be given time to copy the "Dexterity Exercises" found on the student practice sheet (page 22). The practice exercises are provided on separate pages for your

\*Available from the Librarian, Cybernetics Research Institute, Inc., 2233 Wisconsin Avenue, N. W., Washington, D. C. 20007.

convenience. If desired, these pages can be reproduced and presented to students for copying. If you are working with a group of children, copies of these exercise sheets should be provided for each student.

The "Dexterity Exercises" are designed to give students practice necessary in learning which keys produce which letters. Since repetition is important in learning the letter-keying associations, each student should practice the exercises until he has thoroughly memorized the code for letters presented in the lesson.

After memorization, proceed to the "Practice Sentences" in Part 2 of the exercise sheet, and have each child type each sentence in the order shown. This part of the lesson gives students a chance to learn how their keyboards can be used to produce printed words in the context of meaningful sentences.

Note that the exercises in this lesson are presented in capital letters. Therefore, it is advisable to put the typewriter in the "upper case" (Shift Lock) position so that the letters produced by students will resemble those on their exercise sheets. In a later lesson (Lesson 7), students will learn how to shift between upper and lower cases using their keyboards.

Also note that since students have not yet learned how to operate the typewriter Carriage Return function, you should do this for them, when necessary, by depressing Key No. 6 twice in succession (see page 23).

LESSON 1

1. Dexterity Exercises

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| EEE | TTT | AAA | OOO | NNN | III |
| AAA | III | TTT | NNN | EEE | OOO |
| EO  | EO  | OT  | TN  | AT  | TI  |
| IAN | TOA | EOT | NAI | ONO | ITO |

2. Practice Sentences

EAT ONE  
I ATE ONE  
ANN ATE NINE  
TEA AT NOON  
IN A TENT  
TEA AT TEN  
I ATE AN ONION

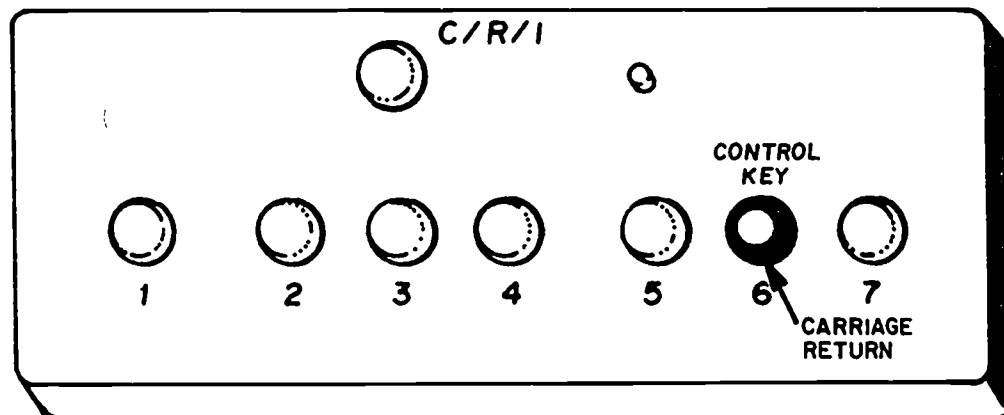
## LESSON 2

This lesson is a review of the typing functions learned in the first lesson: "Space," E, T, A, O, N, I. It is important for students to master the keying positions for these functions before proceeding further.

Have students copy the words and phrases provided at the top of the exercise sheet for this lesson. This practice should reveal the extent to which children have remembered functions learned in the previous lesson. If additional practice is necessary, use the exercises for Lesson 1, then return to the "Copy Words and Phrases" for this lesson.

The questions in Parts 2 and 3 on the exercise sheet are designed to stimulate the children's imagination. Students should answer these questions in their own words and to the best of their ability. However, at this early stage, it may be necessary for you to provide some "coaching" or suggestions for these creative exercises.

At this time, introduce the carriage return function to the students.



Demonstrate the keying position for this function and, if necessary, explain the purpose of the carriage return. The carriage return function may be explained to young children as "the mechanism on the typewriter that rolls the paper to a new clean line so that you can continue typing."

Have students practice the carriage return keying position a few times, and thereafter have them use it appropriately when they wish to type a new line of print on the paper.

LESSON 2

1. Copy Words and Phrases

|         |              |
|---------|--------------|
| OAT     | ONE TOE      |
| NONE    | TEN ATE      |
| EATEN   | TEA TOO      |
| TON     | IN AN INN    |
| AN ANT  | EAT AN ONION |
| NOT ONE | NOON TO ONE  |

2. What numbers can you spell using only the letters E-T-A-O-N-I? Type them.

3. How many words can you make using only the letters E-T-A-O-N-I? Type them. (You may use the same letter more than once in a word.)



### LESSON 3

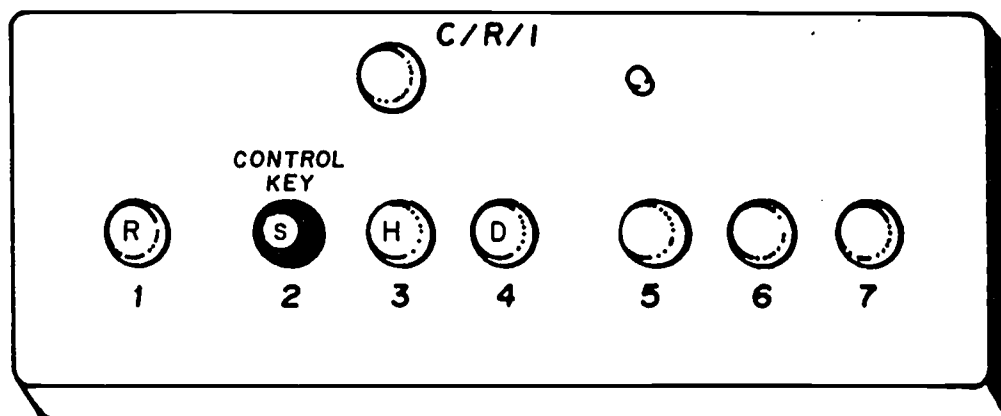
The first "Training Exercise Test" (Training Exercise No. 1 on page 27) should be administered at the beginning of this lesson. It is best to precede the test with a brief review of "Space, E, T, A, O, N, I."

This training exercise must be timed with a stopwatch and be administered according to the following procedure. Each child should be given the exercise individually in a quiet room without distracting noises or movements. It is suggested that the teacher should not use the word "test" in describing these "Training Exercises."

Use your own judgment in wording the instructions for these tests, but give the child directions approximately as follows:  
"Today, you are going to receive a special exercise so that you too can find out how well you are doing." --- (Place exercise sheet in front of child.) --- "Type the three sentences on this page as fast as you can, but concentrate and try to make a perfect copy."

Let the child see your stopwatch and explain that you want to find out how much time is taken in completing the exercise. Give the child a signal to start, and at the end of one minute, record on the "Scoring Sheet" the letter and word being typed, but do not interrupt the student at this point. Allow the child to continue typing all three sentences in the test and record the total time required to complete the exercise. Let the student know the amount of time recorded by the stopwatch.

Present the new material in this lesson once the test is completed. The functions to be introduced in this lesson are: R, S, H, and D. Students should be shown the keying locations of R, S, H, and D, and be given time to copy the "Dexterity Exercises" and "Practice Sentences" found on the exercise sheet on page 28.



TRAINING EXERCISE NO. 1

TEN IN A NET

AT A TONE

NO ONE ATE IT

TRAINING EXERCISE SHEET

Scoring Sheet

Student's Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

Training Exercise Test No. \_\_\_\_\_

1. Location in Cybertyping at end of first minute:

Letter \_\_\_\_\_, Word \_\_\_\_\_

2. Total time for completion \_\_\_\_\_

Note: Attach student's paper to this form and return to C/R/I

LESSON 3

1. Dexterity Exercises

RRR      SSS      HHH      DDD  
RS      SR      SH      HS      HD      DH  
RSHD      DSRH      SRHD      HDRS  
SRS      RHR      DHD      HSH

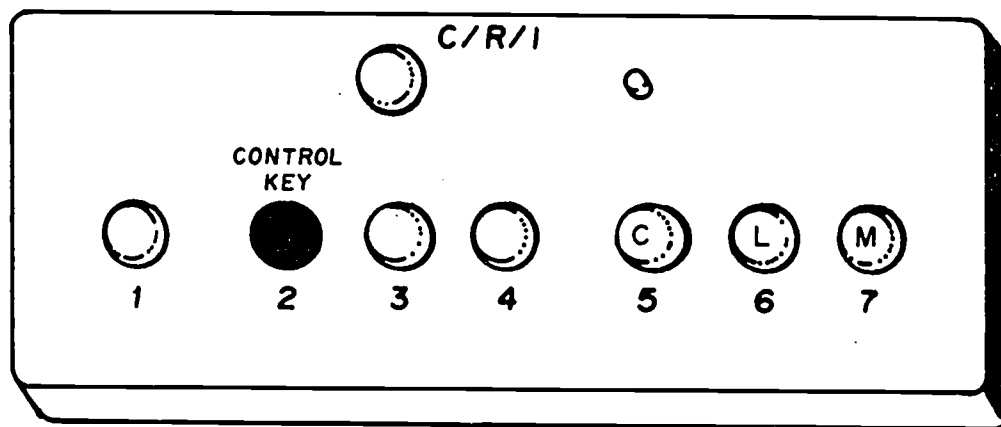
2. Practice Sentences

NAN RAN  
SHE RAN IN THE SAND  
SARAH HAS RED SHOES  
ETTA SITS  
SHE HAD A RED HEN  
ANN HAS A HARD HEAD

#### LESSON 4

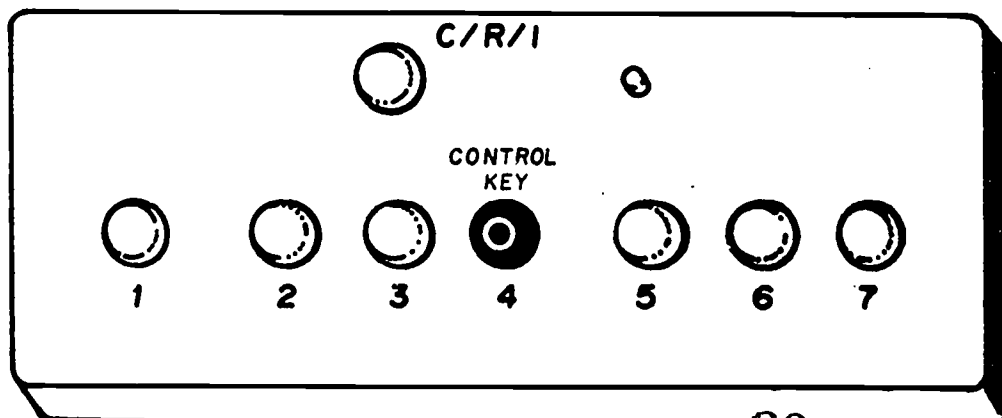
In this lesson, students will be taught the remaining three letters produced by Control Key No. 2, and the period produced by Control Key No. 4. These letters, along with those the students have already learned, will provide a sizeable word vocabulary.

The letters to be introduced are: C, L, and M.



Present the key locations for the new letters in the order indicated above. Then have students complete the "Dexterity Exercises" involving these new functions.

After students have completed these exercises, indicate the use and keying locations for the period. Since the period function requires a different Control Key than the letters R, S, H, D, C, L, and M, it should be introduced separately. Students will then be prepared to proceed with the "Dexterity Exercises" which include periods, as well as the "Practice Sentences."



LESSON 4

1. Dexterity Exercises

CCC    LLL    CCC    MMM    LLL  
CLC    LCL    MCM    CMC  
CL    LC    CM    MC    LM    ML  
CLM    MLC    LMC    MCL  
...    ...    ...    ...  
C.    L.    M.    .C    .L    .M

2. Practice Sentences

LITTLE OLD HENS SIT STILL.

IT SCARES RON.

SCOT RACES.

CALL AND TELL HER.

TODD RAN A MILE.

TOM AND HE HAD SOME.

ED HELD IT THREE TIMES.

THE LITTLE CAT CAME HOME.

## LESSON 5

Lesson 5 is a review of Lessons 3 and 4, involving the letters produced by Control Key No. 2: R, S, H, D, C, L, and M.

Students should copy the words and phrases at the top of the exercise sheet for this lesson. For additional practice, Part 2 of the exercise sheet involves forming new words from the letters in the word "CHRISTMAS." Part 3 requires the student to make new words from sequences of scrambled letters. It may be necessary for you to modify or even delete these "creative exercises" for one or more students, depending on age and ability. Here again, the judgment of the teacher is invaluable.

LESSON 5

1. Copy Words and Phrases

|       |                |
|-------|----------------|
| THE   | ROSE           |
| CLAD  | MITTENS        |
| CHART | SAD LION       |
| MAIL  | LAME HORSE     |
| CLAM  | CAR DOOR       |
| CENTS | ADD COCOA      |
| CLOSE | STAND AND CHAT |

2. How many words can you make using only the letters in the word CHRISTMAS? Type them.

3. Unscramble the letters below to make new words. Type the words you make.

|             |                          |
|-------------|--------------------------|
| S-T-E-A     | (a direction)            |
| H-T-N-R-O   | (another direction)      |
| M-R-T-H-O-E | (someone in your family) |
| S-E-T-N     | (a bird's home)          |
| O-O-T       | (a word that means also) |



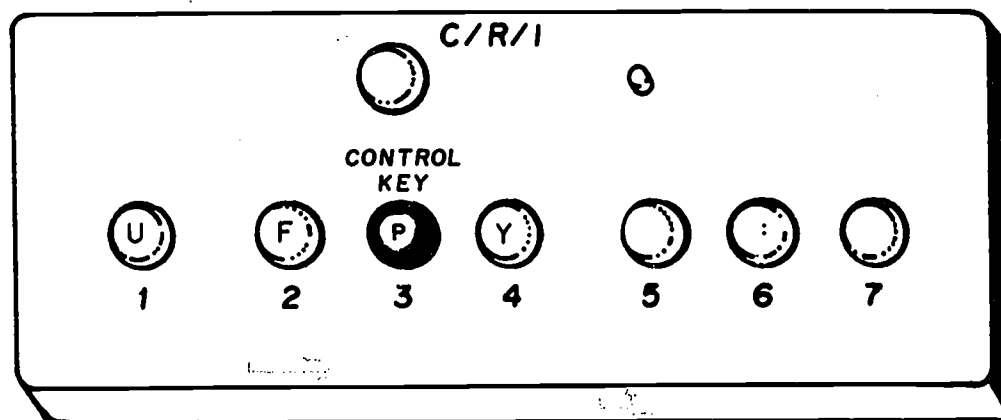
## LESSON 6

The second "Training Exercise Test" should be administered at the beginning of this lesson. It is best to precede the test with a brief review of "R, S, H, D, C, L, M, period."

Once the test is completed, present the new material contained in this lesson.

Functions to be introduced in Lesson 6 are: U, F, P, Y.

Students should be introduced to U, F, P, and Y, produced by Control Key No. 3, then be given time to copy the "Dexterity Exercises" and the "Practice Sentences."



TRAINING EXERCISE NO. 2

CATCH MICE.

MOM READS.

LEARN SHORT RIDDLES.

TRAINING EXERCISE SHEET

Scoring Sheet

Student's Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

Training Exercise Test No.

1. Location in Cybertyping at end of first minute:

Letter \_\_\_\_\_, Word \_\_\_\_\_

2. Total time for completion \_\_\_\_\_

Note: Attach student's paper to this form and return to C/R/I

LESSON 6

1. Dexterity Exercises

UUU      FFF      PPP      YYY  
UF      UP      UY      YU      PF  
YP      FU      PY      FY      PU  
UFPU      YUPY      PFYP      FUPF

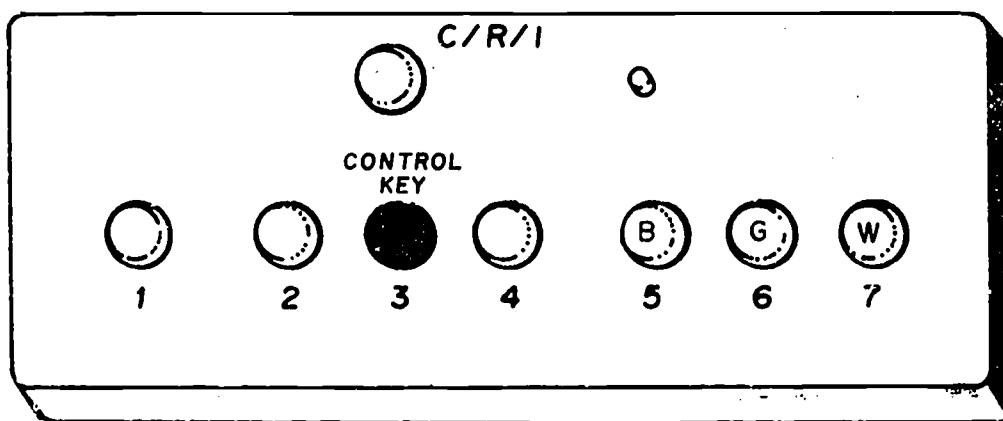
2. Practice Sentences

RUTH HAS A FUR COAT.  
UNTIL THEN SETH FELT FINE.  
TURN LEFT UNDER THE TALL TREE.  
POLLY MADE A FLOPPY POPPY.  
FUN AND FROLIC ARE FREE.  
PURPLE PEOPLE ARE HARD TO FIND.

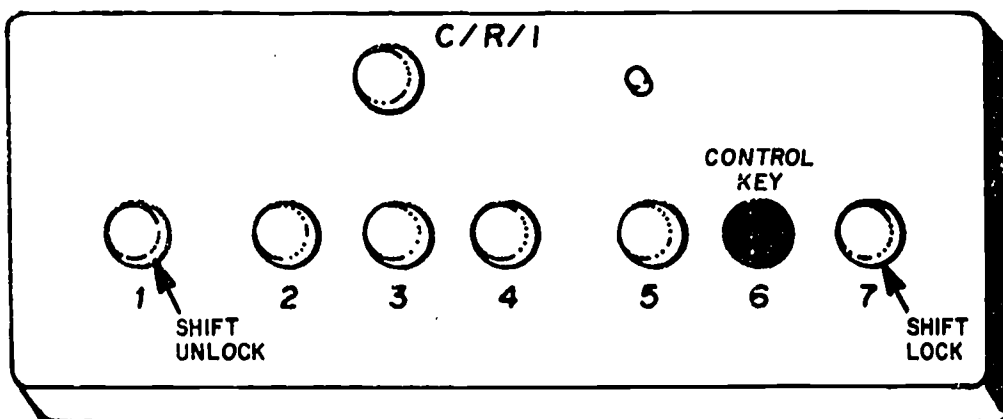
## LESSON 7

In this lesson, students will be introduced to the remaining three letters of Control Key No. 3 (B, G, W), and to the "Shift Lock" and "Shift Unlock" functions produced by Control Key No. 6.

Students should first be introduced to the new letters in the order B-G-W, and then be given time to complete the "Dexterity Exercises" involving these new letters.



After the children have completed these exercises, demonstrate the keying positions for "Shift-Lock" (upper-case) and "Shift Unlock" (lower-case), and have students proceed to the second set of "Dexterity Exercises" and the "Practice Sentences."



Thus far, the typewriter has always been placed in the "Shift Lock" (upper-case) position. Starting with this lesson, students will be able to produce upper- and lower-case letters, symbols, and functions by themselves.

Throughout the lesson, emphasize that Control Key No. 3 is used to produce the letters U, F, P, Y, B, G, W, and that the "Shift Lock" and "Shift Unlock" functions require the use of Control Key No. 6.

## LESSON 7

### 1. Dexterity Exercises

bbb      ggg      www      ggg      www

bgb      gwg      wgw      bwb      gbg

bgwb      gbwg      wbgw

bg      wg      gb      gw      wb

BgW      Wbg

Pp      Gg      Ww      Yy

PpP      GgG      WwW

### 2. Practice Sentences

The baby played outside in the sun.

Bubbles wiggled through the water.

We flew up to Washington.

See the fat buffalo.

Call his bluff.

Many of the frogs were bigger.

A fat puppy yawned.

## LESSON 8

Lesson 8 is a review of the function series for Control Key No. 3: U, F, P, Y, B, G, W (functions presented in Lessons 6 and 7). Again, it is important that the students master this series before proceeding further in the "Cybertype" code.

For practice, students should copy the words and phrases in Part 1 of the exercise sheet for this lesson. If the students perform well, proceed to the other parts of the exercise sheet. Part 3 involves words beginning with "un." Ask your students to make up words using letters you have previously taught them.



LESSON 8

1. Copy Words and Phrases

|            |               |
|------------|---------------|
| purple     | flag down     |
| four       | fluffy cotton |
| ply        | big bug       |
| dry        | baby buggy    |
| typewriter | wagging tail  |
| Cybertype  | playful puppy |

2. Type the names of the days of the week.

3. How many words, using the letters you have already learned, can you think of that begin with un? Type them.

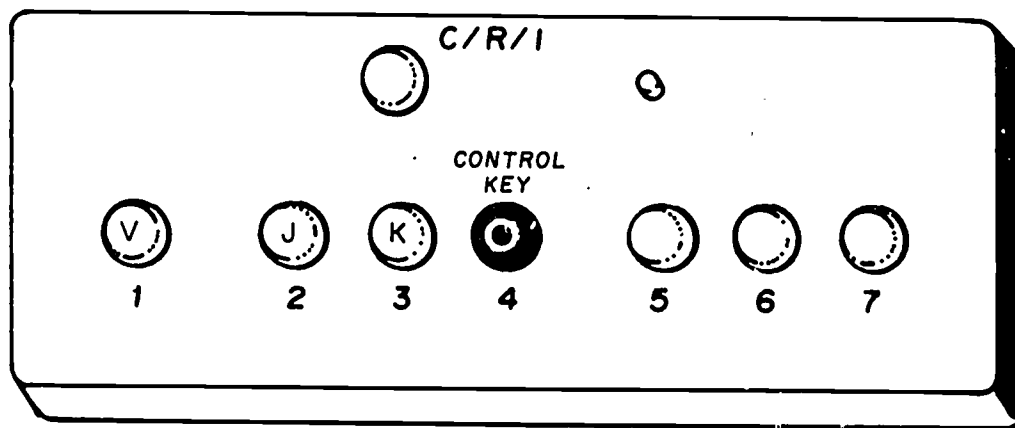
4. Unscramble the letters to make new words. Type the words you make.

|         |                                |
|---------|--------------------------------|
| n-a-w-y | (a sign that you are sleepy)   |
| g-p-i   | (a farm animal)                |
| w-r-g-o | (to get bigger)                |
| w-g-s-a | (what a happy dog's tail does) |
| f-u-b-f | (to rub to a shine)            |

## LESSON 9

The third "Training Exercise Test" should be administered at the beginning of this lesson. Remember to precede the test with a brief review of "U, F, P, Y, B, G, W."

The functions to be introduced in this lesson are: V, J, and K. These letters are produced with Control Key No. 4 which also produces the period - already introduced in Lesson 4.



Demonstrate keying positions for the new functions in the order V-J-K-period, and give students practice in copying the "Dexterity Exercises" and "Practice Sentences" in Parts 1 and 2 of the exercise sheet.

Part 3 is a creative exercise requiring children to make up words using only the letters in the word "ASTRONAUT." Students usually enjoy the discoveries involved in such Anagram word games, and similar language-building exercises may be developed by teachers and students for use as supplementary instructional materials.

TRAINING EXERCISE NO. 3

Long bumpy beds.

Franny chews gum.

Frog tripped twice.

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: \_\_\_\_\_  
Teacher: \_\_\_\_\_  
Date: \_\_\_\_\_  
Location: \_\_\_\_\_

Training Exercise Test No. \_\_\_\_\_

1. Location in Cybertyping at end of first minute:  
Letter \_\_\_\_\_ , Word \_\_\_\_\_
2. Total time for completion \_\_\_\_\_

Note: Attach student's paper to this form and return to C/R/I

## LESSON 9

### 1. Dexterity Exercises

v v v      j j j      . . .      k k k  
...      k k k      v v v      j j j  
. v k j      j v k .      v j . k      k . v j  
v .      j .      k .      . v      . j      . k  
. v .      . j .      . k .      v . .      j . .      k . .

### 2. Practice Sentences

Joe gave Jane a Valentine.

Vince visits us every evening.

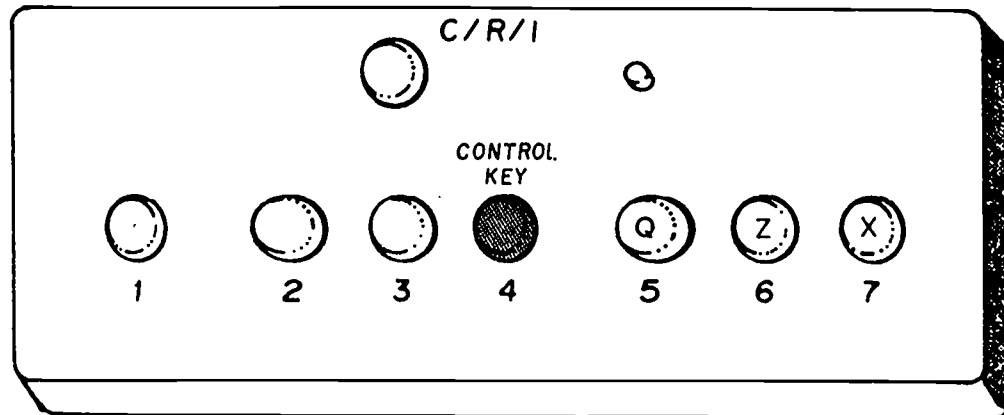
Dr. and Mrs. V.J. Keats were there.

Vera and Jack baked a cake.

3. How many words can you make using only the letters in the word ASTRONAUT? Type these words.

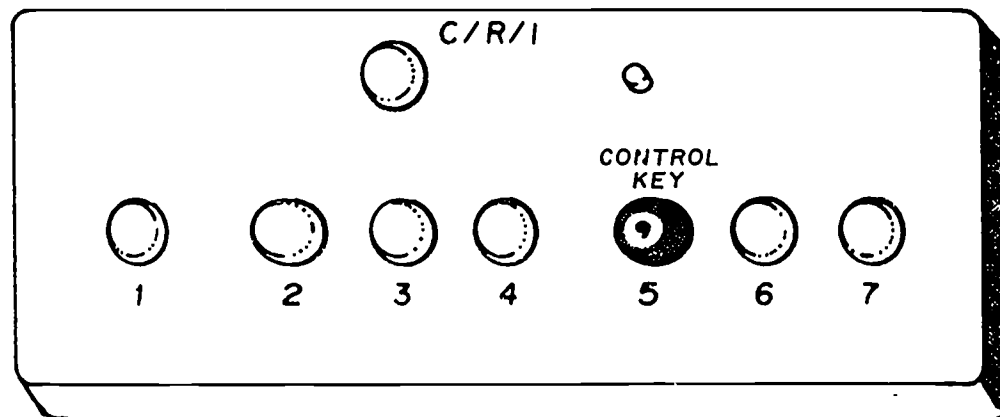
# LESSON 10

The functions to be introduced in this lesson are: Q, Z, X, and comma. The letters Q, Z, and X are produced with Control Key No. 4, as shown in the diagram below.



After these letters have been introduced, provide practice using the first part of the "Dexterity Exercises."

The keying positions for the comma should be introduced next. Point out that Control Key No. 5 is used to produce the comma, as shown below.



After key locations for the comma have been demonstrated, have students copy the second part of the "Dexterity Exercises" which includes practice with the comma symbol, then proceed to the "Practice Sentences."

## LESSON 10

### 1. Dexterity Exercises

q q q      z z z      x x x  
x x x      q q q      z z z  
q x      x q      z x      x z      z q      q z  
q z x      q x z      z q x      z x q  
q x q      q z q      z q z      z x z  
, , ,      , , ,      , , ,  
, g ,      , z ,      , x ,      , x z

### 2. Practice Sentences

Jim, it is very quiet here.

Quietly jump over the fence.

Max and Kathy danced the waltz.

The fox quietly ran past the zebra, the kangaroo, and the monkey.

Suzie put six zippers in a box.

The fuzzy kitten sneezed.

## LESSON 11

Lesson 11 is a review of the functions introduced in Lessons 9 and 10: V-J-K-. (period)-Q-Z-X-, (comma).

Briefly review the keying locations for these functions with the students and have them copy the words and phrases in Part 1 of the exercise sheet. If any students appear uncertain of these functions, provide them with additional practice before proceeding. The students should then complete the exercises in Parts 2, 3, and 4 of the exercise sheet.

Following this lesson, you may want to have the students practice using those exercises from the "Supplementary Materials" Appendix to this Instruction Manual which deal with letters of the alphabet. These exercises will provide a valuable review of Lessons 1-10. Furthermore, the supplementary exercises provide practice with frequently used letter groups and can facilitate "Cybertyping" performance.

Lessons 12-15 introduce the keying locations for numbers and symbols available on the typewriter.



## LESSON 11

### 1. Copy Words and Phrases

|        |                 |
|--------|-----------------|
| buzz   | a black kitten  |
| very   | a jolly juggler |
| exit   | quit quarreling |
| walk   | a lazy lizard   |
| square | six taxis       |
| zipper | violet velvet   |
| vex    |                 |
| squeak |                 |
| jump   |                 |
| jam    |                 |

2. Type the alphabet. (A, B, C, etc.)

3. Type the names of the months of the year.

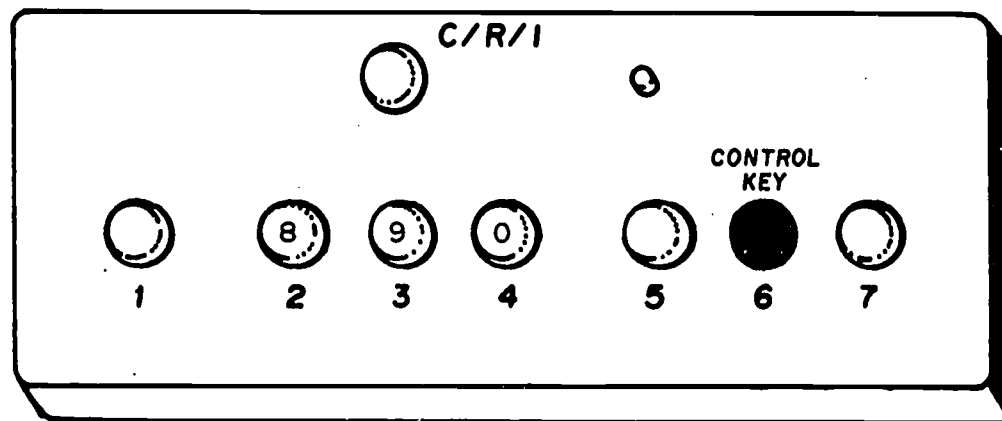
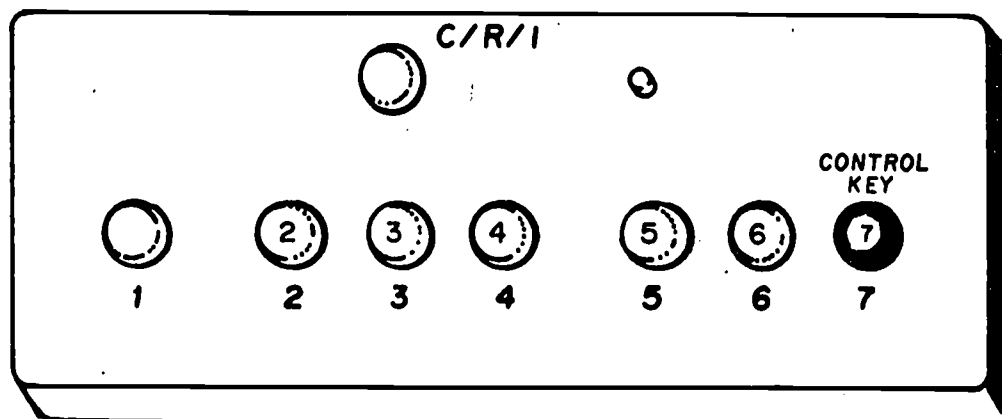
4. Now that you have learned to "Cybertype" all the letters of the alphabet, make up three sentences of your own and type them.

## LESSON 12

The fourth "Training Exercise Test" should be administered at the beginning of this lesson. As usual, precede this with a brief review of the functions to be tested. Once the test is completed, introduce the new material in this lesson.

The functions to be introduced in this lesson are the numerals: 2, 3, 4, 5, 6, 7, 8, 9, 0.

The numerals 2 through 7 are obtained with the Control Key No. 7, while 8, 9 and 0 are part of the series for Control Key No. 6.



On some typewriters, it is necessary to use the lower case letter "l" for the numeral "1." Other typewriters will have the numeral "1" (one) as the first function in the Control Key No. 7 series. Be sure to check this on your typewriter and interface before introducing numerals to the students. If your electric typewriter employs the lower case letter "l" for the numeral "1," instruct your students accordingly.

Introduce the keying locations of the numerals to the children, then have them complete the "Dexterity Exercises" and the "Practice Sentences." The numerals are relatively easy to learn because their keying locations are arranged in ordinal sequence. Supply additional practice on the numerals for those students who need it; appropriate exercises may be found in the Supplementary Materials section of the Appendix to this manual.

TRAINING EXERCISE NO. 4

I have a blue jar.

A lazy dog was quiet.

The monkey pinched the fox.

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

Training Exercise Test No. \_\_\_\_\_

1. Location in Cybertyping at end of first minute:

Letter \_\_\_\_\_, Word \_\_\_\_\_

2. Total time for completion \_\_\_\_\_

Note: Attach student's paper to this form and return to C/R/I

LESSON 12

1. Dexterity Exercises

1 2 3 4                      1 2 3 4  
5 6 7                      8 9 0  
1 2 3 4 5 6 7 8 9 0  
10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0  
25              34              16              78              90  
57              41              63              829              0  
0 1 2 3 4 5 6 7 8 9 10

2. Practice Sentences

Mother needs 2 loaves of bread and 4  
quarts of milk.

I will be ready on the count of 3.

There are 7 bananas in this bunch.

A dozen is the same as 12.

John has 56 marbles, and Ken has 98 marbles.

In a countdown, 0 is the last number.

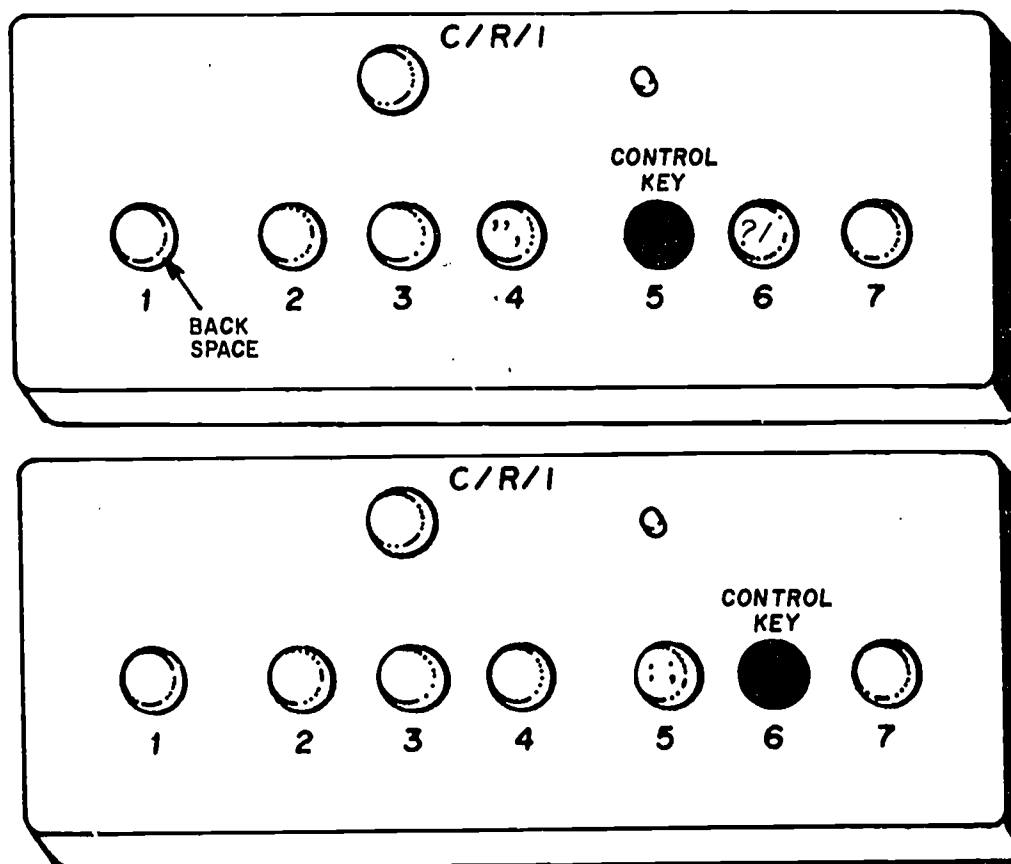
1 2 3 4 5 6 7 8 9 10, ready or not,  
here I come.

### LESSON 13

Briefly review the numerals, then administer the fifth "Training Exercise Test." Present the new materials in this lesson once the test is completed.

Lesson 13 introduces the frequently used punctuation symbols which have not been taught previously. These symbols are obtained with the Control Keys. No. 5 and No. 6.

The functions to be introduced in this lesson are: Backspace, " ' ? / : ;



Introduce the symbols obtained from the fifth and sixth Control Keys in the order given above. It may be necessary to explain the significance of these symbols to some students. Several of these functions are located in upper case as shown in the preceding illustration.

After introduction of the symbols, students should complete Parts 1 and 2 on the exercise sheet. If necessary, provide additional practice using Supplementary Materials in the Appendix.

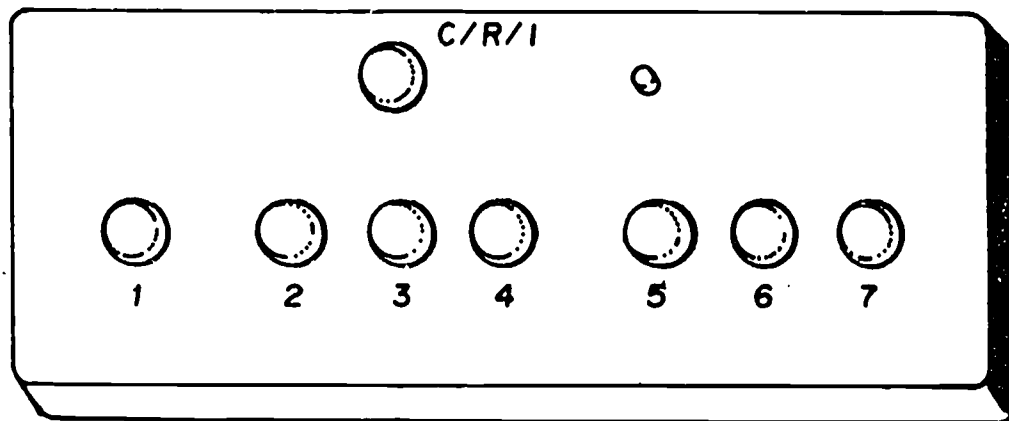
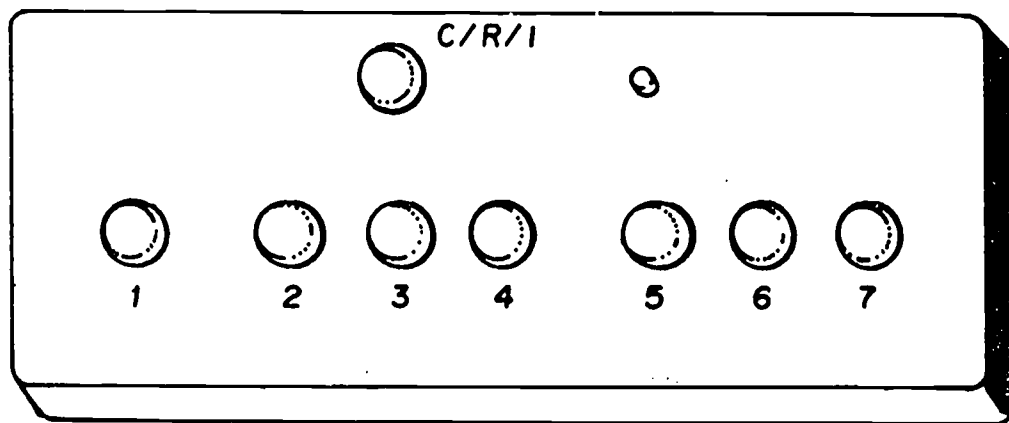
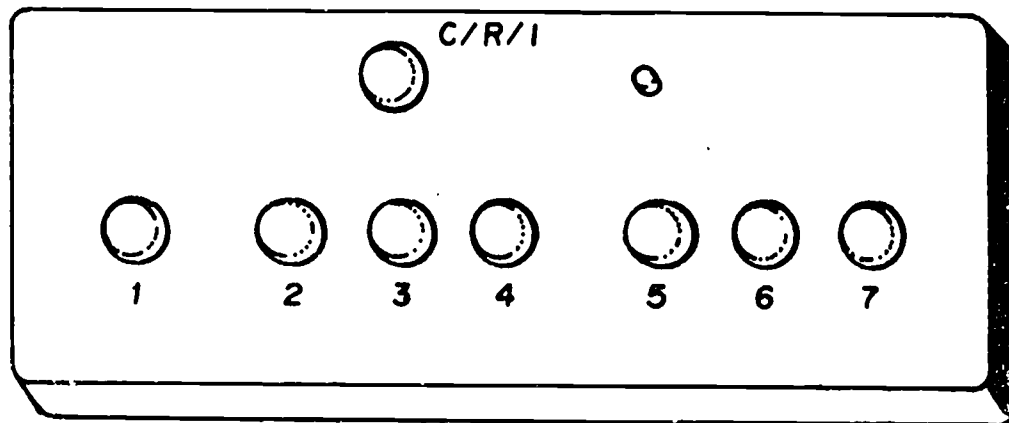
Some punctuation symbols are not introduced in this Instruction Manual because they are used so infrequently. These symbols include: \* ( ) @ # \$ & %

If an individual student needs to type any of these symbols, the keying locations can be identified by referring to the diagrams in the Introduction to this Manual. Since typewriters vary in the key assignments for certain symbols, dual keying positions can be verified in the following manner: (1) Check the numeral keys on your typewriter to find the symbol desired, remembering that the symbols are upper case functions on typewriters; (2) note the dual keying positions for the numeral corresponding to the desired symbol; (3) place the typewriter in Shift Lock (upper-case) position; and (4) type the desired symbol.

If your keying assignments for certain symbols do not correspond with Figure 3 (page 7), fill in the key positions for these functions using the blank charts on the next page.



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TRAINING EXERCISE NO. 5

379 minus 379 equals 0.

4 x 6 is 24.

58 plus 1 is not 8.

62 minus 10 is 52.

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

Training Exercise Test No. \_\_\_\_\_

1. Location in Cybertyping at end of first minute:

Letter \_\_\_\_\_, Word \_\_\_\_\_

2. Total time for completion \_\_\_\_\_

Note: Attach student's paper to this form and return to C/R/I

LESSON 13

1. Dexterity Exercises

/// /    ? ? ?    ' ' '    " " "    ; ; ;    : : :

/ ?    / ?    ? /

' "    ' "    " '    ' "

; :    ; :    : ;

(practice the backspace)

/    ?    '    "    ;    :

:    '    ?    /    "    ;

2. Practice Sentences

I am here; Dad is over there.

Do you want to come along?

Ann is 8 ; Mary is 7.

Buy the following: coffee, cheese, milk,  
cookies and/or doughnuts.

Is November 12, 1970, also written 11/12/70?

Begin the letter with Dear Sir :.

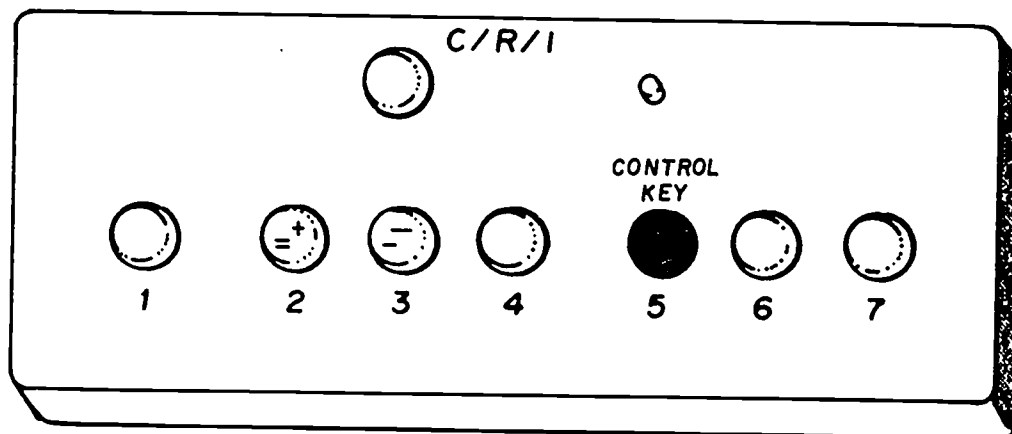
" That's Pam's bike, " said her brother.

## LESSON 14

The sixth "Training Exercise Test" should be administered at the beginning of this lesson. Precede this with a brief review of the punctuation symbols. Once the test is completed, present the new material contained in this lesson.

This lesson introduces the math symbols. These are obtained with the Control Key No. 5.

The symbols to be introduced are: = + - (minus) (underline). Keying positions for these symbols are shown in the chart below for the IBM "Model C" electric typewriter. IBM "Selectric" typewriters with "Prestige Elite," "Courier," "Letter Gothic," or "Delegate" type styles do not provide the "+" and "=" symbols at all. Check the typewriter assigned to your program to verify positions for these symbols.



As illustrated in the above diagram, + and \_ are upper case functions; = and - are lower functions.

For multiplication, the small "x" is used, and a small "d" is suggested for the division sign. The "d" has been chosen to represent "divided by."

Have students complete the "Dexterity Exercises" and the math problem activities on the exercise sheet. Provide additional practice materials for students requiring further assistance.

TRAINING EXERCISE NO. 6

He said, "Is it Al's?"

Oh no; not now!

Dear Sir:

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

Training Exercise Test No.

1. Location in Cybertyping at end of first minute:

Letter \_\_\_\_\_, Word \_\_\_\_\_

2. Total time for completion \_\_\_\_\_

Note: Attach student's paper to this form and return to C/R/I

## LESSON 14

### 1. Dexterity Exercises

===      +++      ---             (3 underlines)

=+      =+      +=

-\_      -\_      \_-

=\_+ -

- =+ \_

\_ = - +

= + - \_      = + - \_

x      x      d      d      /      /

### 2. Math Problems

$$1+7=8$$

$$6-2=4$$

$$5 \times 2 = 10$$

$$9 \div 3 = 3$$

|    |   |   |    |    |   |
|----|---|---|----|----|---|
| 14 | 9 | 6 | 24 | 39 | 4 |
|----|---|---|----|----|---|

|           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|
| <u>+3</u> | <u>-5</u> | <u>x2</u> | <u>+1</u> | <u>-8</u> | <u>x4</u> |
|-----------|-----------|-----------|-----------|-----------|-----------|

|    |   |    |    |    |    |
|----|---|----|----|----|----|
| 17 | 4 | 12 | 25 | 31 | 16 |
|----|---|----|----|----|----|

$$4 \div 2 = 2$$



## LESSON 15

This is the last formal lesson of the Instruction Manual. Begin by administering the seventh, and final, "Training Exercise Test" found on the next page.

The exercise sheet for this lesson consists of suggestions for creative writing. However, for this exercise, children should be encouraged to develop their own ideas in creating stories to be printed using their interfaces.

TRAINING EXERCISE NO. 7

$$2+2+4=8$$

$$7-6=1$$

$$5 \times 1 = 5$$

$$9 \div 3 = 3$$

**TRAINING EXERCISE TEST**

**Scoring Sheet**

**Student's Name:** \_\_\_\_\_

**Teacher:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Location:** \_\_\_\_\_

**Training Exercise Test No.**

**1. Location in Cybertyping at end of first minute:**

**Letter** \_\_\_\_\_, **Word** \_\_\_\_\_

**2. Total time for completion** \_\_\_\_\_

**Note:** Attach student's paper to this form and return to C/R/I

LESSON 15

Suggestions for Creative Writing:

Once there was a little boy who loved  
(popsicles)...

Once I found...

Once a \_\_\_\_\_ lived deep in the woods...

Once upon a time, long ago, ...

Once there was a family of purple  
caterpillars ...

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C/R/I  
INSTRUCTION MANUAL

APPENDIX

Supplementary Materials

SUPPLEMENTARY MATERIALS

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**COPY AND COMPLETION EXERCISES**

One, two, and three letter words are used in this particular set of copy materials to provide the student with extensive practice on new letters. Word lists are arranged for each letter group in the "Cybertype" code. Each word list employs letters from its letter group and from those groups previously introduced to the student.

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Letter Group: E, T, A, O, N, I

|     |     |
|-----|-----|
| A   | TEA |
| I   | TOE |
| AT  | TIE |
| ON  | INN |
| IN  | ATE |
| IT  | ONE |
| NO  | TIN |
| TEN | NON |
| NOT | TAN |
| EAT | NET |
| TON | TEE |
| OAT | ION |



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Letter Group: R, S, H, D, C, L, M

|     |     |
|-----|-----|
| DID | DAD |
| SHE | END |
| RAN | SEA |
| AND | SEE |
| HIT | AIR |
| HER | RAT |
| HIS | RED |
| SAD | MEN |
| HOT | HEN |
| MAT | LET |
| MID | LIE |
| CAT | CAN |
| COT | DOC |
| HAD | HAS |
| THE | CAR |

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Letter Group: U, F, P, Y, B, G, W

|     |     |
|-----|-----|
| bug | pay |
| mop | ply |
| bow | pig |
| pup | bay |
| rug | fly |
| pop | run |
| wee | gum |
| bop | wig |
| mug | bum |
| cup | fun |
| out | fat |
| way | pun |
| pug | got |
| boy | sun |
| buy | pat |
| gay | pry |
| top | won |

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Letter Group: V, J, K, Q, Z, X

|     |     |
|-----|-----|
| van | jag |
| joy | zig |
| fox | via |
| eve | zoo |
| keg | six |
| jam | jab |
| vet | ink |
| box | qua |
| vim | kit |
| jig | tax |
| quo | vat |
| zip | ave |

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**Sample Fill-In Exercises**

The following two pages provide examples of fill-in exercises. Similar work sheets may be constructed at your own discretion.

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FILL IN THE BLANKS

Example: I ATE AN ONION

I BOUGHT \_\_\_\_\_

I BROUGHT \_\_\_\_\_

I PEELED \_\_\_\_\_

I COOKED \_\_\_\_\_

**TYPE THE COLOR WORDS;  
THEN COMPLETE THE SENTENCES.**

RED

BROWN

PURPLE

BLUE

GREEN

YELLOW

BLACK

WHITE

ORANGE

WHAT COLOR IS IT?

1. LETTUCE IS \_\_\_\_\_

2. BREAD IS \_\_\_\_\_ OR \_\_\_\_\_

3. BANANAS ARE \_\_\_\_\_

4. BEETS ARE \_\_\_\_\_

5. CARROTS ARE \_\_\_\_\_

**Exercises with Common Letter Groups**

This section provides copy exercises with words and sentences employing common two- and three- letter groups.

PRACTICE ON THE "AND" LETTER GROUP

|      |        |         |
|------|--------|---------|
| and  | brand  | Andy    |
| band | grand  | dandy   |
| hand | strand | handy   |
| land | handle | sandy   |
| sand | sandal | candy   |
| wand |        | andante |

Hand Andy and Sandy a handle.

A grand band landed on the sand.

I sand and sand and sand a handle.

Andy has dandy sandals.



PRACTICE ON THE "AT" LETTER GROUP

|     |       |        |
|-----|-------|--------|
| at  | sat   | ate    |
| bat | vat   | date   |
| fat | brat  | fate   |
| eat | spat  | gate   |
| hat | flat  | late   |
| oat | that  | mate   |
| mat | boat  | slate  |
| pat | float | plate  |
| rat |       | berate |

I eat.

A cat spat at the rat.

A cat sat in a hat on a mat.

I hate late dates.

PRACTICE ON THE "ING" LETTER GROUP

|       |        |        |
|-------|--------|--------|
| king  | sting  | mingle |
| ring  | string | single |
| sing  | thing  | tingle |
| wing  | wring  | cringe |
| fling | finger | fringe |
| bring | singer |        |

Bring the king a ring.

My ring finger tingles.

Sing, sing, single singer.

The king is singing and ringing a bell.

Let's go sliding and sleigh riding,

singing while we're swinging.

PRACTICE ON THE "TH" LETTER GROUP

|         |          |          |          |
|---------|----------|----------|----------|
| than    | third    | three    | earth    |
| thank   | thirteen | thrill   | fourth   |
| that    | thirty   | throat   | growth   |
| thaw    | this     | throw    | health   |
| then    | thistle  | thumb    | math     |
| thief   | Thomas   | thunder  | path     |
| thick   | thorn    | Thursday | strength |
| thimble | though   | bath     | truth    |
| thin    | through  | birth    | with     |
| thing   | tough    | both     | wrath    |
| think   | threat   | death    | youth    |

**This is that thin thing.**

**I think this thimble is thicker than  
that thimble.**

**A thorn in the path threatened the  
growth and health and the strength  
of the youth.**

PRACTICE ON THE "THE" LETTER GROUP

|         |         |         |         |
|---------|---------|---------|---------|
| the     | theory  | bathe   | mother  |
| theater | therapy | bother  | other   |
| thee    | there   | brother | rather  |
| theft   | these   | either  | smother |
| their   | thesis  | ether   | weather |
| them    | they    | father  | whether |
| then    | another | heather | wither  |

The cat sat in the hat on the mat.

They like the hat of the other brother.

The ant ate the oat in the hat.

Exercises with Poems and Jingles

This section provides poems and jingles for children to copy. Many children find such poems fascinating, and these exercises provide additional practice in producing repetitive letters and words.

LIONS LEAPING LIONS

LEAPING LIONS LEAPING

LEAPING IN THE GRASS

LEAPING HERE LEAPING THERE

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A MILLION TOMATOES

A MILLION TOMATOES

TOMATOES RED RED RED

I SHALL EAT A RED RED RED  
TOMATO

B-17

34

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A CAT IS A CAT,

IS A CAT, IS A CAT

AND THAT IS THAT, IS THAT

IS THAT IS THAT,

AND THAT IS A CAT,

IS A CAT, IS A CAT,

AND THAT IS THE END OF THAT,

THAT CAT.



A LOOSE TOOTH

IS A SERIOUS MATTER

IN A MEAN ANIMAL.

HE CAN DREAM

A MILLION DREAMS

AND NOT CATCH

A SMALL SMELL OR

TASTE A TENDER MORSEL.

COPY EXERCISES USING COMMON ABBREVIATIONS

|                      |        |
|----------------------|--------|
| MONDAY               | MON.   |
| TUESDAY              | TUES.  |
| WEDNESDAY            | WED.   |
| THURSDAY             | THURS. |
| FRIDAY               | FRI.   |
| SATURDAY             | SAT.   |
| SUNDAY               | SUN.   |
| MARYLAND             | MD.    |
| VIRGINIA             | VA.    |
| DISTRICT OF COLUMBIA | D. C.  |
| PENNSYLVANIA         | PA.    |
| JANUARY              | JAN.   |
| FEBRUARY             | FEB.   |
| MARCH                | MAR.   |
| APRIL                | APR.   |
| AUGUST               | AUG.   |
| SEPTEMBER            | SEPT.  |
| OCTOBER              | OCT.   |
| NOVEMBER             | NOV.   |
| DECEMBER             | DEC.   |

"CYBERTYPE" WORD LIST

This section provides lists of commonly used words arranged for each letter group in the "Cybertype" code. The order of presentation for letters within each letter group is consistent with the presentation order for letters in the Instruction Manual for 14-key, "Cybertype" dual-input systems. These word lists can readily be used with the 7-key "Cybertype" system, although the presentation order for letters within each letter group differs slightly from that given in this section.

Word lists for each letter are based on other letters in the same group, or on letters in groups previously introduced. After teaching a complete letter group (e. g. , "R, S, C, H, L, D, M"), the word lists for each letter in that series may be used as a source for further practice.

This section is also intended for use in the composition of sentences, and should be particularly helpful in practice and reinforcement of the letter-keying code in the early stages of instruction with the "Cybertype" system.

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Letter Group: E, O, T, N, A, I

a  
I  
at  
ate  
to  
too  
eat  
tea  
toe  
toot  
an  
neat  
no  
ant  
none  
noon  
not  
on  
note  
teen  
in  
nit  
tie  
ten  
one  
nine  
in  
it  
lon  
iota  
tint  
tent  
ton  
tan  
tin  
nation  
attention

Letter Group: R, S, C, H, L, D, M

| <u>R</u> | <u>S</u> | <u>C</u> |        |
|----------|----------|----------|--------|
| air      | also     | accident | dance  |
| are      | as       | ace      | doctor |
| car      | easiest  | ache     | each   |
| enter    | east     | across   | ice    |
| entire   | Easter   | act      | nice   |
| eraser   | interest | can      | ocean  |
| iron     | is       | cane     | once   |
| near     | its      | cannot   | race   |
| nor      | nearest  | car      | reach  |
| or       | nest     | carrot   | rice   |
| rain     | noise    | card     | rich   |
| ran      | nose     | care     |        |
| rat      | reason   | case     |        |
| roar     | rest     | cash     |        |
| root     | rinse    | cat      |        |
| rotten   | roast    | catch    |        |
| tear     | rooster  | cent     |        |
| tire     | rose     | center   |        |
| tore     | sat      | chain    |        |
| torn     | seat     | chair    |        |
| train    | season   | chance   |        |
| tree     | sea      | chase    |        |
|          | see      | cheat    |        |
|          | seen     | chin     |        |
|          | sent     | choice   |        |
|          | set      | choose   |        |
|          | sir      | chosen   |        |
|          | siren    | coal     |        |
|          | sister   | coat     |        |
|          | sit      | cocoa    |        |
|          | snore    | cone     |        |
|          | so       | corn     |        |
|          | soon     | corner   |        |
|          | sore     | cost     |        |
|          | stain    | cross    |        |

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| <u>H</u> |        | <u>L</u>  |         | <u>D</u> |       | <u>M</u>  |          |
|----------|--------|-----------|---------|----------|-------|-----------|----------|
| another  | the    | all       | lesson  | ad       | radio | am        | mine     |
| earth    | their  | alone     | let     | add      | read  | almost    | mint     |
| either   | then   | call      | letter  | address  | red   | animal    | mirror   |
| hair     | there  | calm      | lie     | and      | ride  | arm       | miss     |
| has      | these  | careless  | line    | dad      | read  | came      | mom      |
| hat      | this   | child     | lion    | dare     | rode  | chimney   | moment   |
| hate     | thin   | children  | listen  | date     | road  | Christmas | month    |
| he       | these  | chocolate | little  | dead     | sad   | climb     | moon     |
| hear     | three  | circle    | load    | dear     | said  | come      | more     |
| heart    | threat | class     | loose   | deer     | sand  | cream     | most     |
| heat     | tooth  | clean     | lose    | dentist  | seed  | dime      | mother   |
| hen      |        | clear     | lost    | did      | send  | dream     | Mr.      |
| her      |        | close     | lot     | die      | side  | ham       | Mrs.     |
| here     |        | cloth     | nails   | dinner   | stand | hammer    | name     |
| hi       |        | clothes   | old     | dirt     | stood | him       | room     |
| his      |        | cold      | real    | dish     | third | home      | same     |
| hit      |        | color     | roll    | distant  | tired | ice cream | seem     |
| horn     |        | cool      | sail    | do       | trade | lemonade  | slam     |
| horse    |        | cradle    | salt    | does     | tried | made      | small    |
| hose     |        | doll      | school  | done     |       | mail      | smell    |
| hot      |        | dollar    | sell    | door     |       | mailman   | smile    |
| neither  |        | electric  | shall   | dot      |       | mama      | some     |
| north    |        | else      | shell   | dress    |       | man       | sometime |
| oh       |        | hall      | sold    | dried    |       | march     | stomach  |
| other    |        | hell      | soldier | end      |       | matter    | storm    |
| rather   |        | hello     | steal   | had      |       | me        | team     |
| share    |        | hill      | still   | hand     |       | mean      | them     |
| she      |        | hold      | tail    | hard     |       | meat      | time     |
| sheet    |        | hole      | tall    | head     |       | medicine  | tomatoes |
| shine    |        | lace      | tell    | heard    |       | meet      |          |
| shoe     |        | laid      | till    | hid      |       | melt      |          |
| shoot    |        | land      | told    | hide     |       | men       |          |
| short    |        | last      |         | idea     |       | mend      |          |
| than     |        | late      |         | indoors  |       | met       |          |
| that     |        | later     |         | inside   |       | middle    |          |
|          |        | lead      |         | instead  |       | mile      |          |
|          |        | learn     |         | need     |       | mill      |          |
|          |        | leather   |         | nod      |       | million   |          |
|          |        | led       |         | order    |       | mind      |          |

Letter Group: U, F, B, P, G, Y, W

U

about  
aloud  
around  
aunt  
cause  
church  
circus  
cloud  
clue  
count  
course  
cousin  
cruel  
cure  
curtain  
cushion  
cut  
cute  
discuss  
dust  
hour  
house  
hundred  
hunt  
hurt  
lettuce  
loud  
lunch  
measure  
minute  
mountain  
mouse  
mouth  
much  
muscle

F

afraid  
after  
afternoon  
calf  
careful  
chief  
different  
face  
fair  
fall  
fan  
far  
farm  
farmer  
fast  
fat  
father  
fear  
feather  
feed  
fell  
felt  
fence  
field  
fill  
find  
fine  
finish  
fire  
first  
fish  
fit  
flies  
float  
floor

B

automobile  
babies  
baby  
bad  
ball  
balloon  
banana  
band  
barn  
bat  
bath  
bathe  
be  
beans  
bear  
beat  
beautiful  
because  
bed  
bee  
been  
beer  
before  
behind  
bell  
bend  
beside  
best  
better  
bicycle  
bill  
bird  
birthday  
bit  
bite

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U

music  
muss  
must  
number  
nurse  
nut  
our  
out  
outdoors  
outside  
round  
ruin  
run  
rush  
should  
shoulder  
shut  
sound  
south  
such  
suit  
summer  
sun  
sure  
thousand  
touch  
true  
turn  
turtle  
uncle  
under  
until  
us  
use

F

food  
foot  
for  
forth  
found  
four  
free  
fresh  
fried  
friend  
from  
front  
fruit  
full  
fur  
furniture  
half  
herself  
himself  
if  
leaf  
left  
life  
lift  
of  
off  
office  
often  
roof  
self  
soft

B

bleed  
bless  
blood  
blue  
board  
beat  
body  
bone  
born  
both  
bottom  
boy  
branch  
bread  
broom  
brother  
brush  
build  
built  
bumblebee  
bump  
burn  
burnt  
burp  
bus  
busy  
but  
butcher  
butter  
butterfly  
button  
buy  
by  
double  
habit  
lamb  
rabbit  
remember  
ribbon  
rob

robin  
rub  
rubber  
table  
thumb  
tub  
umbrella



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P

|          |           |
|----------|-----------|
| airplane | piano     |
| apple    | picnic    |
| camp     | picture   |
| cap      | pie       |
| captain  | piece     |
| cup      | pin       |
| cupboard | pipe      |
| deep     | place     |
| dope     | plain     |
| drop     | plant     |
| elephant | plate     |
| help     | please    |
| hop      | point     |
| hope     | pond      |
| lamp     | policeman |
| lap      | poor      |
| leap     | pop(corn) |
| lip      | porch     |
| nap      | post      |
| open     | pot       |
| pail     | potatoes  |
| pain     | pound     |
| pair     | press     |
| pal      | pull      |
| pan      | put       |
| pants    | shape     |
| papa     | sheep     |
| paper    | ship      |
| parade   | shop      |
| parents  | sleep     |
| part     | slip      |
| pass     | soap      |
| past     | space     |
| paste    | spoon     |
| pat      | spot      |
| path     | spread    |
| peach    | step      |
| peas     | stop      |
| peel     | supper    |

G

|          |             |           |
|----------|-------------|-----------|
| again    | gate        | neighbor  |
| against  | get         | night     |
| age      | ghost       | nothing   |
| ago      | gift        | orange    |
| along    | giraffe     | page      |
| angel    | girl        | pig       |
| angry    | glad        | rag       |
| anything | glass       | right     |
| bag      | go          | ring      |
| bandage  | goat        | rug       |
| began    | goes        | sign      |
| begin    | going       | something |
| begun    | gold        | song      |
| belong   | golden      | spring    |
| big      | gone        | sting     |
| bought   | good        | straight  |
| bright   | goodbye     | string    |
| bring    | gorilla     | strong    |
| brought  | got         | sugar     |
| building | grade       | though    |
| bug      | grain       | thought   |
| change   | grandfather | through   |
| cough    | grandmother | together  |
| danger   | grape       | tongue    |
| dig      | grass       | tough     |
| dining   | gray        | ugly      |
| dog      | great       |           |
| drug     | green       |           |
| edge     | grocery     |           |
| egg      | ground      |           |
| eight    | guess       |           |
| engine   | guest       |           |
| enough   | gum         |           |
| fight    | hang        |           |
| finger   | high        |           |
| flag     | hung        |           |
| forget   | hungry      |           |
| forgot   | large       |           |
| frog     | laugh       |           |

*Cybernetics Research Institute*

P

pen  
pencil  
people  
pet

suppose  
surprise  
top

G

gallon  
game  
garage  
garden  
gas

leg  
light  
long  
might  
morning

Y

|         |           |
|---------|-----------|
| already | today     |
| any     | toys      |
| candy   | try       |
| city    | way       |
| company | yard      |
| copy    | year      |
| country | yes       |
| crayons | yesterday |
| cry     | yet       |
| day     | yell      |
| dirty   | you       |
| dry     | sorry     |
| early   | stay      |
| easy    | story     |
| empty   | they      |
| eye     | thirsty   |
| family  |           |
| fly     |           |
| funny   |           |
| happy   |           |
| hurry   |           |
| lady    |           |
| lay     |           |
| many    |           |
| may     |           |
| money   |           |
| my      |           |
| myself  |           |
| only    |           |
| party   |           |
| pay     |           |
| penny   |           |
| play    |           |
| pony    |           |
| pretty  |           |
| puppy   |           |
| ready   |           |
| say     |           |
| silly   |           |

W

|          |         |          |
|----------|---------|----------|
| allow    | towel   | will     |
| always   | town    | win      |
| answer   | twelve  | wind     |
| away     | twenty  | window   |
| awful    | two     | wing     |
| between  | wagon   | winter   |
| blow     | wait    | wish     |
| bow      | wall    | witch    |
| bowl     | want    | with     |
| brown    | war     | without  |
| clown    | warm    | woman    |
| cow      | was     | women    |
| crowd    | wash    | wonder   |
| crown    | waste   | wood     |
| down     | watch   | wool     |
| draw     | water   | word     |
| drawer   | we      | wore     |
| fellow   | wear    | world    |
| few      | weather | worry    |
| flower   | wedding | would    |
| follow   | well    | wrap     |
| grew     | went    | write    |
| grow     | were    | wrong    |
| how      | west    | yellow   |
| low      | wet     | sweep    |
| new      | what    | sweet    |
| now      | wheat   | throw    |
| own      | wheel   | tomorrow |
| pillow   | when    | why      |
| row      | where   | wide     |
| sandwich | whether | wig      |
| saw      | which   | wild     |
| sew      | while   |          |
| shadow   | whisper |          |
| show     | white   |          |
| slow     | who     |          |
| snow     | whole   |          |
| sweat    | whom    |          |
| sweater  | whose   |          |

Letter Group: V, J, Q, K, Z, X

V

above  
alive  
believe  
brave  
cover  
dive  
drove  
eleven  
evening  
ever  
every  
everything  
five  
gave  
give  
glove  
have  
heavy  
leave  
leaves  
live  
love  
move  
never  
over  
overalls  
prove  
river  
save  
serve  
seven  
several  
shave  
shiver  
stove  
twelve

valley  
vanilla  
velvet  
very  
vine  
voice  
wave  
weave

J

jail  
jam  
jar  
jelly  
job  
join  
joy  
jump  
just  
pajamas

Q

quack  
quarrel  
quarter  
queen  
question  
quick  
quiet  
quite  
square  
squash  
squeak  
squirrel  
squirt

K

|              |         |
|--------------|---------|
| ask          | kiss    |
| awake        | kitchen |
| awoke        | kitten  |
| back         | knee    |
| bank         | knew    |
| bark         | knife   |
| basket       | knock   |
| beak         | know    |
| bike         | lake    |
| black        | like    |
| blackboard   | lock    |
| book         | look    |
| break        | make    |
| breakfast    | mark    |
| brick        | market  |
| broke        | milk    |
| cake         | monkey  |
| check        | napkin  |
| cheek        | neck    |
| chicken      | nickle  |
| clock        | park    |
| cook         | peck    |
| cookie       | pick    |
| crackers     | pickle  |
| creek        | pocket  |
| dark         | rock    |
| drink        | sack    |
| duck         | shake   |
| fake         | shook   |
| fork         | sick    |
| handkerchief | silk    |
| joke         | skates  |
| keep         | skin    |
| kept         | skirt   |
| key          | sky     |
| kick         | smoke,  |
| kill         | snake   |
| kind         | socks   |
| king         | speak   |

Z

|              |        |
|--------------|--------|
| spike        | breeze |
| spoke        | buzz   |
| steak        | crazy  |
| stick        | dozen  |
| stocking     | freeze |
| strike       | frozen |
| suck         | fuzzy  |
| take         | jazz   |
| talk         | lazy   |
| thank        | prize  |
| Thanksgiving | puzzle |
| thick        | quiz   |
| ticket       | raze   |
| took         | size   |
| truck        | sneeze |
| wake         | waltz  |
| walk         | zebra  |
| week         | zero   |
| work         | zipper |
|              | zoo    |
|              | zoom   |

X

|         |
|---------|
| axe     |
| box     |
| except  |
| excited |
| expect  |
| exit    |
| fix     |
| fox     |
| mix     |
| next    |
| six     |
| taxi    |

## "CYBERTYPE" PRACTICE SENTENCES

The following sentences are designed to emphasize and reinforce the learning of newly introduced letters. For each letter (with the exception of E, O, T, N, A, I), there are at least four sentences, each sentence using the pertinent letter a minimum of three times, and using with it only those letters from the same "Cybertype" letter group previously introduced.

To further supplement your activities, you may want to compose similar sentences by referring to the "'Cybertype' Word List" in the preceding section.

Note: Where possible, emphasis should be placed on the development of student creativity by encouraging students to compose their own sentences with their "Cybertype" systems, using the sentences in this section as models.

**PRACTICE SENTENCES FOR THE  
E-O-T-N-A-I "CYBERCODE" SERIES**

(Use after entire series has been introduced)

E, O, T, N, A, I

I ate at ten.

I eat one onion.

An ant ate an oat.

At noon I eat in a tent.

A neat teen ate a tan onion in a tin.

I note a nation at attention.

PRACTICE SENTENCES FOR THE  
R-S-C-H-L-D-M "CYBERCODE" SERIES

(Use after the entire series has been introduced)

R

A rear tire tore.

A rat ran under a tree.

Aaron ran near a train.

An iron train ran into a rotten tree root.

I enter an eerie terrain.

S

Teens sit on seats.

Toss Rose a stone.

Roast toast is in season.

Sara Stasson stores onions in a stone seat.

A senior senator starts a sensation.



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C

He can catch a cat.

A car can coast.

Cocoa costs ten cents.

Cora can dance the cancan.

A cat can catch a roach.

Richard Rice cheats at cards.

H

She has his hose.

He has thin hair.

He has three shoes.

The hen hit the horse on the shoe.  
(Emphasizing THE)

He harnesses his horse at the station.

Cybernetics Research Institute

L

Tell Ellen to call.

A late lad eats less.

Let a child lead the line.

Little Nellie lost her doll.

Tell Tillie a tall tale.

Elsa is a real cool doll.

D

Dad had a red radio.

Hand Dot a dish.

A sad dad had a hot head.

Dad and Ed stand in the sand.  
(Emphasizing AND)

The distant dentist does not season his  
roast hen.

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M

Mom made me a mitten.

I smell some meat.

Tell him to come home.

Tom marched almost ten miles.

Mrs. Moon made creamed meat.

A calm clam came late.  
(Emphasizing C, L, M)

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**PRACTICE SENTENCES FOR THE  
U-F-B-P-G-Y-W "CYBERCODE" SERIES**

(Use after the entire series has been introduced)

**U**

Stu could use us.

The nurse rushed us out.

Cut a rut under our cute house.

Uncle Curt runs around our church each hour.

Let us discuss musical matters.

**F**

A fat father fans his face.

Find a foot of felt.

Flat feet often fall.

Find Fran a full loaf.

I fear a fish fell off the roof.

*Cybernetics Research Institute*

B

Boy babies bite better.

Bill built a blue boat.

Baby Bess bit her rubber rabbit.

Bob rubbed his bruised bottom.

Beer and beans made Mable burp.

P

Pat planted peas in a pot.

Please pass Paul a pail of paint.

Peter sleeps up on top of a piano.

Pam helped Pat peel potatoes.

Pop slipped and dropped his piece of  
apple pie.

*Cybernetics Research Institute*

G

Go get a big bag.

A big ugly pig got angry.

Eggs get bigger in spring.

Gail Higger gets green grape gum.

Angry angels fight grog and eggnog.

Y

Sally yells all day.

Fay can only pay a penny.

Dirty dry crayons made Mary cry.

If you do not pay today you may be sorry.

My city already has a candy company.

W

How now brown cow.

Wild winter winds blow.

We will wash with water.

Willie wants to win a new watch.

Wanda wore a yellow wool wig.

PRACTICE SENTENCES FOR THE  
V-J-Q-K-Z-X "CYBERCODE" SERIES

(Use after entire series has been introduced)

V

I shave every evening.

Brave beavers love to dive.

Give Victor five heavy gloves.

Eve and Harv have every vote.

I have never lived over a valley.

J

Jane just jumped.

Jolly Jimmy enjoys jam and jelly.

John juggles juicy objects.

Major Johnson joined a banjo band.

Q

Quit quarreling and be quiet.

The quiet queen requires a quilt.

Form a square quickly and quietly.

A squirrel squeaked and squirted squash.

*Cybernetics Research Institute*

K

Jack took his bike back.

Kate kissed her black kitten.

I like to bake cakes and cookies.

Dick picked a peck of pickles.

Z

Bees buzz and zoom lazily.

I need a dozen large size zippers.

The zebra waltzed with the fuzzy bear.

In winter Suzie wheezes and sneezes and freezes.

X

Fix a box for the fox.

Rex will be six next week.

I see six taxis at the next exit.

An anxious axman expects a maximum of  
sixteen.



TOPICS FOR CREATIVE WRITING

(Note: Suggest these topics only after all letters, symbols, and functions in the "Cybercode" have been introduced).

Cybernetics Research Institute

Once there was a little boy who loved (popsicles) . . .

One day when Bobby got home from school he found an  
enormous \_\_\_\_\_ on the doorstep . . .

Once upon a time there was a family of purple cater-  
pillars . . .

Once I found . . .

Once a \_\_\_\_\_ lived deep in the woods . . .

Once in a far away land . . .

Once upon a time long, long ago . . .

Deep in the jungle, on the top of a great big tree . . .

PERSONAL TOPICS FOR  
ORIGINAL WRITING

My friends . . .

My family . . .

My favorite things . . .

My favorite foods . . .

Me . . .

WRITE A STORY.



WRITE A STORY.



*Cybernetics Research Institute*

Imagine . . .

a green froggy all soggy  
a sleepy sloth waked by a moth  
a turtle gruff in a huff  
playing in the hay today  
having peanut butter on your shutter  
a hug from a bug

Use your imagination to "Cybertype" a story about one  
of the above topics.

*Cybernetics Research Institute*

Imagine that the following things have happened to you.  
Tell what you did.

What happened when you clucked at a duck?

What happened when you bonged on a gong?

What happened when you slipped on a ship?

What happened when you got muddy with a buddy?

*Cybernetics Research Institute*

What would we see if . . .

we visited the zoo?

we went to a farm?

we went to a supermarket?

we went to a theater?

we toured an art museum?

we went to school?

we went to the beach?

we visited your house?

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What would happen if . . .

everyone in the classroom talked at once?

the clock in your house didn't work?

you left a dog and some hamburger alone in  
the same room?

someone brought a little snowman into the  
room and set it on his desk?

everything fell up instead of down?

the bell at the end of your recess period didn't  
ring?

the sun continued to shine all night long?

**CREATIVE ANSWERS**

Think of and list 5 things you could do with . . .

a paper napkin

clothespins

a long piece of wire

a catalog

a wash cloth

a big box

a tiny box

toothpicks

a magazine

an old plastic tablecloth

a twig

a hook

a piece of rope

a paper clip

empty orange juice cans

marshmallows

CREATIVE ANSWERS

List all the things you can wear on your hands.

List all the things you can wear on your feet.

List all the things you can think of that are red.

List all the things you can think of that are hot.

List all the things you can think of that are shaped like a triangle.

List all the things you could do with your nose.

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**LANGUAGE BUILDING EXERCISES**

(Note: These exercises should be used  
only after children have learned the entire letter-keying code).

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SYNONYMS

Synonyms are words that have the same meaning.

Type these sentences using a synonym for the underlined word.

Example: That woman is my mother.

Answer: That lady is my mother.

1. I gave the letter to the postman.
2. My dad went to work.
3. Joe cannot find his galoshes.
4. The lad is ten years old.
5. The sunset was pretty.
6. The puppy ran across the street.
7. The bird flew toward the nest.

## ANTONYMS

Antonyms are words that have opposite meanings.

Here is a list of paired words. Some are opposites (antonyms) and some are not. Choose the antonym word groups and type them.

Example: work, play

Answer: work, play

Example: tiny, wee

Answer: (do not type anything)

1. hot, cold
2. fish, feet
3. big, little
4. fast, slow
5. fun, games
6. angry, happy
7. cry, weep
8. white, black
9. dry, wet
10. all, none

HOMONYMS

Homonyms are words that sound alike.

Type the words that sound alike in each set.

Example: bore, born, boar

Answer: bore, boar

1. fur, for, four
2. your, our, hour
3. to, toe, two
4. mane, main, mean
5. soar, sour, sore
6. so, sew, sue
7. sun, sin, son
8. at, ate, eight
9. see, so, sea
10. scene, son, seen

*Cybernetics Research Institute*

How many words can you type  
using only the letters in the  
word DICTIONARY?

Type them. (You may use  
the same letter more than  
once.)



*Cybernetics Research Institute*

How many words can you type  
using only the letters in the  
name CHARLIE BROWN?

Type them. (You may use  
the same letter more than  
once.)

*Cybernetics Research Institute*

Which month is it?  
(Type your answer.)

January

February

March

April

May

June

July

August

September

October

November

December

---

How many words can you type using only  
the letters in the name of this month?  
Type them.

COMPLETE THE RHYMES

ON THIS PAGE

Worms wiggle.  
Girls \_\_\_\_\_.

Sheep sleep.  
Lions \_\_\_\_\_.

I climb a tree  
To see the \_\_\_\_\_.

He will float  
Beside the \_\_\_\_\_.

I sat on a ledge  
To cut the \_\_\_\_\_.

He sat still  
As he rode down the \_\_\_\_.

I have a rock  
In my \_\_\_\_\_.

I like jam  
With my \_\_\_\_\_.

See the locks  
On the \_\_\_\_\_.

It has a crack  
In \_\_\_\_\_.

Quick kittens  
With muddy \_\_\_\_\_.

It was a joy  
To see the \_\_\_\_\_.

WORD BUILDING EXERCISES

Form words by using the following letters to fill in the blanks.

t n r s h d c l m

\_in

\_at

\_ate

\_in

\_at

\_ate

\_ain

\_an

\_oat

\_ain

\_an

\_oat

\_ot

\_eat

\_ean

\_ot

\_eat

\_ean

\_one

\_am

\_eam

\_one

\_am

\_eam

COMPLETION EXERCISES

Complete the last word in each line, and type the sentences.

1. Mother has a pretty r \_\_\_\_\_.
2. Bob plays with his d \_\_\_\_\_.
3. Susan can read a b \_\_\_\_\_.
4. Tom works with a s \_\_\_\_\_.
5. Jack wants a b \_\_\_\_\_.
6. Larry rides in a c \_\_\_\_\_.
7. Tom can fly his k \_\_\_\_\_.

"B" WORDS

Arrange and type these words in alphabetical order.

bike

bird

barn

ball

bat

bear

book

bed

Copy these sentences; fill in the missing words from the list above.

1. You sleep in a \_\_\_\_\_.
2. Cows live in a \_\_\_\_\_.
3. You read a \_\_\_\_\_.
4. You may find a \_\_\_\_\_  
in the zoo.
5. You hit a ball with a \_\_\_\_\_.
6. The boy rides his \_\_\_\_\_.
7. A \_\_\_\_\_ can fly.

"K" WORDS

Think of a word that begins with "K", and type your answer.

1. It is a girl's name. \_\_\_\_\_
2. It can fly high on a windy day. \_\_\_\_\_
3. It is soft and small. \_\_\_\_\_
4. It can jump very far. \_\_\_\_\_
5. You can unlock a door with it. \_\_\_\_\_

"L" WORDS

Type only the names of things that grow, choose them from this list.

leaf

letter

laugh

lamp

lock

lamb

light

lion

leg



What goes with this word?

shoes

bread

mother

sister

hot

sun

fork

bacon

cat

cake

work

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NUMBERS AND MATH SYMBOLS

(Note: These exercises are to be used  
only after students have learned the entire letter-keying  
"Cybercode.")

*Cybernetics Research Institute*

1. Number Practice

|      |      |      |    |     |   |   |   |   |    |
|------|------|------|----|-----|---|---|---|---|----|
| 1    | 2    | 3    | 4  | 5   | 6 | 7 | 8 | 9 | 10 |
| 10   | 20   | 30   | 40 | 50  |   |   |   |   |    |
| 60   | 70   | 80   | 80 | 100 |   |   |   |   |    |
| 91   | 28   | 73   | 46 | 50  |   |   |   |   |    |
| 1950 | 1960 | 1970 |    |     |   |   |   |   |    |

2. Number Sentences

1 and 1 are \_\_\_\_\_

2 plus 3 is \_\_\_\_\_

4 minus 2 is \_\_\_\_\_

Today is \_\_\_\_\_  
month day year

*Cybernetics Research Institute*

Count to ten:

— — — — — — — — — —

ADDITION:

$1 + 1 = \underline{\quad}$

$1 + 2 = \underline{\quad}$

$2 + 2 = \underline{\quad}$

$3 + 4 = \underline{\quad}$

$3 + 3 = \underline{\quad}$

$5 + 6 = \underline{\quad}$

$4 + 4 = \underline{\quad}$

$7 + 8 = \underline{\quad}$

$5 + 5 = \underline{\quad}$

$9 + 10 = \underline{\quad}$

$6 + 6 = \underline{\quad}$

$7 + 7 = \underline{\quad}$

$8 + 8 = \underline{\quad}$

$9 + 9 = \underline{\quad}$

$10 + 10 = \underline{\quad}$

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SUBTRACTION:

$$6 - 5 = \underline{\quad}$$

$$8 - 3 = \underline{\quad}$$

$$7 - 3 = \underline{\quad}$$

$$9 - 2 = \underline{\quad}$$

$$7 - 5 = \underline{\quad}$$

$$3 - 3 = \underline{\quad}$$

$$9 - 8 = \underline{\quad}$$

$$24 - 24 = \underline{\quad}$$

$$24 - 20 = \underline{\quad}$$

$$24 - 4 = \underline{\quad}$$

$$268 - 268 = \underline{\quad}$$

$$268 - 0 = \underline{\quad}$$

$$3895 - 1 = \underline{\quad}$$

**MULTIPLICATION:**

$$3 \times 4 = \underline{\quad}$$

$$6 \times 4 = \underline{\quad}$$

$$7 \times 3 = \underline{\quad}$$

$$4 \times 5 = \underline{\quad}$$

$$2 \times 8 = \underline{\quad}$$

$$3 \times 8 = \underline{\quad}$$

$$5 \times 1 = \underline{\quad}$$

$$5 \times 7 = \underline{\quad}$$

$$6 \times 6 = \underline{\quad}$$

$$7 \times 4 = \underline{\quad}$$

$$9 \times 5 = \underline{\quad}$$

$$2 \times 3 = \underline{\quad}$$

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DIVISION:

$$10 \text{ d } 5 = \underline{\hspace{2cm}}$$

$$8 \text{ d } 4 = \underline{\hspace{2cm}}$$

$$9 \text{ d } 3 = \underline{\hspace{2cm}}$$

$$12 \text{ d } 3 = \underline{\hspace{2cm}}$$

$$21 \text{ d } 7 = \underline{\hspace{2cm}}$$

$$15 \text{ d } 3 = \underline{\hspace{2cm}}$$

$$32 \text{ d } 4 = \underline{\hspace{2cm}}$$

$$4 \text{ d } 1 = \underline{\hspace{2cm}}$$

$$20 \text{ d } 5 = \underline{\hspace{2cm}}$$

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MATH PRACTICE:

$2 + 4 = \underline{\quad}$

$3 + 7 = \underline{\quad}$

$10 + 5 = \underline{\quad}$

$4 \times 2 = \underline{\quad}$

$6 \times 3 = \underline{\quad}$

$29 \times 1 = \underline{\quad}$

$32 - 2 = \underline{\quad}$

$49 - 9 = \underline{\quad}$

$26 - 6 = \underline{\quad}$

$6 \div 3 = \underline{\quad}$

$10 \div 2 = \underline{\quad}$

$16 \div 4 = \underline{\quad}$

$$\begin{array}{r} 25 \\ +33 \\ \hline \end{array}$$

$$\begin{array}{r} 400 \\ +200 \\ \hline \end{array}$$

$$\begin{array}{r} 444 \\ -222 \\ \hline \end{array}$$

$$\begin{array}{r} 869 \\ -634 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 1 \\ \hline \end{array}$$



*Cybernetics Research Institute*

Place the Correct Math Symbol in the Circle:

2      2 = 4

6      1 = 7

10      9 = 1

8      4 = 2

3      4 = 12

10      1 = 11

7      5 = 2

24      24 = 0

5      6 = 11

14   +   0      14

15      5 = 3

9   +   2      11

LETTERS, PUNCTUATIONS,  
AND NUMERALS

INTEGRATION EXERCISES

The copy exercises on the following pages employ all the functions taught in the "Cybertype" code. Each function is used at least twice, while the more common functions are used repeatedly.

Cybernetics Research Institute

eotnai          r schldm          ufbpgyw          vjqkz.x

(Sp)ruv          esfj          ocbq          thpk

nlgz          ady.          imwx

1234          4321          567          765          890          098

0 1 2 3 4 5 6 7 8 9 10

5          24          361          7000          89

/ ? ' " ; : !          ? ! " ; / : '

= + - \_ x d          \_ + - =

*Cybernetics Research Institute*

Isn't Joe's dog lost?

Aunt Mary said, "Happy Birthday!"

Twenty-three men, women, and children came to the party.

$342 - 342 = 0$

Men landed on the moon on 7/19/69.

The electric lamp was invented January 27, 1880, by

Thomas A. Edison.

$10 + 2 = 12$ ;  $11 + 1 = 12$

The quick king waltzes very exuberantly.

Dear Sir:

*Cybernetics Research Institute*

Shopping List:

2 loaves of bread

3 boxes of cereal

4 quarts of milk

5 bananas

6 eggs

7 slices of ham

8 oranges

*Cybernetics Research Institute*

I have chocolate, vanilla, and strawberry;  
which do you want?

Do you want nuts too?

Yes, please.

Thank you, Mrs. Sands.

*Cybernetics Research Institute*

This is another way to write a date. It is shorter and uses only numerals.

Using January 26, 1972 as an example, follow Steps 1 through 5 to write it the short way on your 'Cybertype. "

- Step 1:        January is the first month; call it "1. "
- Step 2:        Make a slash.
- Step 3:        Put the numeral date of the month (26).
- Step 4:        Make another slash.
- Step 5:        Then type the last 2 digits of the year (72).

Answer:       1/26/72

How would you write February 14, 1965, the short way ?

Type today's date the short way.

Type your birthday this way, too.

*Cybernetics Research Institute*

I am thirsty.

May I have a glass of water?

Thank you, Mother.



*Cybernetics Research Institute*

What did Debbie have in her purse ?

She had 2 combs, a mirror, 7 bobbi pins,  
6 tissues, and 45 cents.

*Cybernetics Research Institute*

I can't do that.

Don't touch the hot pot.

"I'm ready," said John.

"Ouch!" yelled Sally.

**Cybernetics Research Institute**

= - ' , / + \_ " , ? ! ! !

**Will you please open the door?**

**"I'm ready."**

**Thank you, Dad.**

**Hi, Cathy!**

**Nov. 29, 1970: 11/23/70**

**My brother is twenty-one!**

**B-85**

*Cybernetics Research Institute*

"Hello, John!" called Randy.

"How about playing ball?"

John said, "I'd like to, but I can't right now."

B-86

"Which is blue? Joe's book, Mary's pencil, Judy's paper, or Bob's ruler?" asked Miss Mann.

"Bob's ruler!" answered Sue.

"My book is green," said Joe.

*Cybernetics Research Institute*

Dear Sir:

This is not the doll that I  
ordered. Please send the one that  
has red hair.

Thank you.

Sincerely,

B-88

165

*Cybernetics Research Institute*

Dear Sir:

This is not the car that I ordered.

Please send the red one that costs  
ninety cents.

Thank you.

Sincerely,

B-89

**FREQUENTLY USED TWO AND THREE  
LETTER SEQUENCES AND WORD EXERCISES**

(These exercises should be used only  
after the entire "Cybercode" has been introduced)

The following word lists and practice exercises were developed for use in learning some of the basic phonetic components of words. They include such constructions as frequently used two and three letter sequences, prefixes and suffixes.

Practice with these exercises will not only increase the student's knowledge of and alertness to common phonetic components of the English language, but will also increase his proficiency on the "Cyber-type." The letter groups mentioned herein occur frequently in written language. Practice in typing them can increase accuracy in typed communications by developing skill in the production of commonly occurring letter sequences.

In addition to providing the instructor with extensive word lists employing the above, this section also includes examples of exercises in which the student can use these letter groups to construct words, produce rhyming words, and compose short sentences. To supplement the above, you may choose to construct exercises similar to those included within this section.



WORD LIST

Based on Commonly Used Two-Letter Sequences

| <u>an</u> | <u>ar</u> | <u>as</u> | <u>at</u> | <u>bl</u> |
|-----------|-----------|-----------|-----------|-----------|
| band      | bar       | ask       | battle    | black     |
| can       | card      | task      | cat       | blur      |
| dandy     | ear       | gas       | eat       | blimp     |
| fan       | jar       | has       | fat       | blot      |
| man       | mar       | was       | hat       | blast     |
| panda     | oar       | mass      | mat       | blink     |
| ran       | par       | last      | Patty     | bleed     |
| sandal    | tart      | sassy     | rats      | blue      |
| tanning   | ware      | grass     | sat       | blood     |
| van       | hard      | waste     | sat       | bleek     |
| wander    |           |           | vat       | block     |
| angry     |           |           | that      |           |
| angle     |           |           | what      |           |
| ant       |           |           | ate       |           |
| <br>      |           |           |           |           |
| <u>br</u> | <u>ch</u> | <u>cl</u> | <u>cr</u> | <u>de</u> |
| brown     | chair     | clear     | creep     | hidden    |
| brush     | chap      | cloud     | crawl     | tide      |
| broil     | chain     | clown     | cradle    | dead      |
| brew      | choke     | clap      | crash     | decide    |
| breed     | chop      | clip      | crept     | deal      |
| brine     | chill     | clock     | cream     | depart    |
| brisk     | chum      | close     | creek     | made      |
| bracket   | chow      | clans     | cringe    | idea      |
| brace     | chore     | class     | crab      | deck      |
|           | cheer     | claw      | crab      | deck      |
|           | cheap     | clean     |           | deep      |
|           |           |           |           | side      |

Cybernetics Research Institute

dr

draw  
dry  
drip  
drawn  
drizzle  
drab  
drop  
drug  
drown  
drum  
drink

dw

dwelt  
dwell  
dwindle  
dwarf  
dwelt  
dweller

ea

each  
eager  
peach  
meat  
heat  
eat  
neat  
beach  
beat  
early  
earn  
earth  
tea  
hear  
head  
east

ed

fed  
led  
Ted  
red  
wedding  
begged  
looked  
edit  
ediface

en

dent  
hen  
mend  
pen  
pencil  
ten  
tent  
tend  
enemy  
even

er

her  
here  
per  
era  
erg  
ere  
error  
ever  
every  
very  
seer  
maker

es

best  
essay  
mess  
pest  
horses  
porches  
lesson  
test  
press  
less  
guess

fl

fly  
fling  
flip  
flap  
flour  
flag  
flat  
flame  
flesh  
flea

fr

fry  
fringe  
freeze  
froze  
free  
fruit  
frail  
fret  
frog  
frost

gl

glass  
gleam  
glare  
glaze  
glue  
glum  
glory  
glimmer  
gland  
wiggle

Cybernetics Research Institute

gr

grip  
grill  
grab  
grin  
grape  
greet  
gray  
green  
grease  
gripe

ha

had  
have  
hand  
having  
shad  
hamper  
shall  
aha  
hall  
hair  
has

he

he  
she  
the  
they  
them  
there  
then  
other  
brother  
here  
her  
head  
hero  
help

in

in  
into  
hinder  
ginger  
fin  
mind  
win  
tin  
pinned  
binge

io

portion  
elevation  
traction  
action  
section  
attention  
diction  
friction  
intention  
fraction

is

his  
miss  
sister  
dislike  
list  
mist  
mister  
hiss  
listen  
isle  
this  
iris  
is

it

it  
hit  
bite  
smith  
kitten  
sit  
lit  
fitted  
write  
write  
itself  
itch  
edit

le

apple  
isle  
lent  
let  
ale  
leader  
puzzle  
letter  
leap  
lean  
leg  
left  
lei

nd

and  
handle  
band  
candy  
mend  
tend  
end  
landing  
send  
fund

nk

ink  
think  
thank  
rink  
pink  
stink  
rank  
dunk  
skunk  
mink  
link

Cybernetics Research Institute

| <u>nt</u> | <u>of</u>  | <u>on</u> | <u>or</u> | <u>ou</u> |
|-----------|------------|-----------|-----------|-----------|
| ant       | of         | on        | or        | ouch      |
| antler    | often      | onto      | nor       | our       |
| tent      | lofty      | one       | tore      | hour      |
| lent      | soft       | ton       | sore      | sour      |
| pant      | offer      | bone      | bore      | touch     |
| rant      | coffee     | onion     | for       | pouch     |
| mint      | toffee     | tone      | orator    | four      |
| went      | off        | only      | organ     | pour      |
| month     | oftentimes | Monday    | poor      | out       |
| tint      | aloft      | cone      | forty     | your      |
|           |            | once      | oral      | you       |
|           |            |           | ore       | oust      |

| <u>ph</u> | <u>pl</u> | <u>pr</u> | <u>re</u> | <u>rt</u> |
|-----------|-----------|-----------|-----------|-----------|
| telephone | place     | pretty    | are       | tart      |
| photo     | please    | present   | red       | mart      |
| physician | plot      | prepare   | read      | part      |
| physics   | apple     | prep      | ready     | start     |
| phonetics | plead     | prefix    | prepare   | flirt     |
| lymph     | pleat     | prof      | treat     | cart      |
| phrase    | plate     | prosper   | pretty    | dirt      |
| physical  | plant     | preview   | real      | shirt     |
| phlox     | plaid     | prepaid   | rare      | heart     |
| phosphate | plenty    | precede   | mare      | curt      |

| <u>sh</u> | <u>sk</u> | <u>sl</u> | <u>sm</u> | <u>sp</u> |
|-----------|-----------|-----------|-----------|-----------|
| ship      | skate     | slip      | smear     | spell     |
| shall     | skip      | slide     | small     | spurt     |
| hush      | sky       | slap      | smart     | lisp      |
| sheep     | skin      | slur      | smile     | sport     |
| shake     | skill     | sleep     | smack     | spring    |
| mush      | skirt     | slight    | smug      | spry      |
| shape     | skit      | slim      | smoke     | speak     |
| sharp     | ski       | slumber   | smuggle   | sprout    |
| shave     | skim      | slosh     | smock     | spool     |
| share     | skull     | isle      | smell     | wasp      |
| shell     | ask       |           | chism     | clasp     |

Cybernetics Research Institute

st

stay  
stem  
steer  
street  
string  
stung  
strip  
last  
waste  
style  
first

sw

swam  
swim  
sway  
swing  
sweet  
sweep  
swell  
swift  
swat  
answer

th

the  
them  
then  
there  
their  
they  
other  
thing  
think  
that  
with  
this

ti

tin  
till  
until  
time  
tip  
tight  
tire  
tide  
tick  
ting  
untie

to

to  
into  
ton  
tough  
tote  
too  
onto  
torch  
total  
tore  
toll  
atop

tr

try  
trip  
treat  
trim  
trust  
troll  
trend  
travel  
trill  
trial  
tray  
entry

tw

tweed  
twice  
twig  
twin  
twist  
twelve  
twitch  
twine  
tweezers  
twitter  
twilight

ve

have  
brave  
love  
wave  
save  
dove  
vend  
veteran  
vex  
vector  
vermin  
alive

wh

when  
where  
what  
why  
while  
white  
which  
wheel  
whisper  
whether

FOUR-LETTER WORD LISTS

Based on Commonly Used Three-Letter Sequences

| <u>ack</u> | <u>ake</u> | <u>alk</u> | <u>all</u> | <u>alt</u> | <u>and</u> | <u>ane</u> | <u>ang</u> | <u>ank</u> |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| back       | bake       | balk       | ball       | halt       | band       | bane       | bang       | bank       |
| tack       | cake       | calk       | call       | malt       | land       | cane       | fang       | lank       |
| lack       | fake       | talk       | fall       | salt       | sand       | mane       | hang       | rank       |
| rack       | lake       | walk       | gall       | alto       | wand       | pane       | gang       | sank       |
| pack       | make       | Salk       | hall       |            | hand       | sane       | rang       | tank       |
|            | rake       |            | mall       |            |            | vane       | sang       |            |
|            | sake       |            | tall       |            |            |            |            |            |
|            | take       |            |            |            |            |            |            |            |
|            | wake       |            |            |            |            |            |            |            |
|            |            |            |            |            |            |            |            |            |
| <u>ash</u> | <u>ast</u> | <u>ate</u> | <u>eak</u> | <u>eam</u> | <u>ean</u> | <u>eap</u> | <u>ear</u> | <u>eat</u> |
| bash       | cast       | bate       | beak       | beam       | bean       | leap       | bear       | beat       |
| cash       | fast       | date       | leak       | team       | lean       | heap       | dear       | feat       |
| dash       | last       | fate       | peak       | seam       | mean       | reap       | fear       | heat       |
| lash       | mast       | gate       | teak       | ream       | wean       | neap       | gear       | meat       |
| mash       | past       | hate       | weak       |            | dean       |            | hear       | neat       |
| rash       | vast       | late       |            |            |            |            | lear       | peat       |
| sash       |            | mate       |            |            |            |            | near       | seat       |
|            |            | rate       |            |            |            |            | rear       |            |
|            |            |            |            |            |            |            | sear       |            |
|            |            |            |            |            |            |            | tear       |            |
|            |            |            |            |            |            |            | wear       |            |
|            |            |            |            |            |            |            | year       |            |

Cybernetics Research Institute

| <u>een</u> | <u>eep</u> | <u>eet</u> | <u>elt</u> | <u>ent</u> | <u>ill</u> | <u>ine</u> | <u>ing</u> | <u>ink</u> |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| been       | beep       | beet       | belt       | bent       | fill       | dine       | bing       | link       |
| seen       | deep       | feet       | felt       | cent       | gill       | fine       | ding       | mink       |
| teen       | keep       | meet       | melt       | dent       | hill       | line       | king       | pink       |
| keen       | peep       | keet       | pelt       | gent       | kill       | mine       | ping       | rink       |
|            | seep       |            | welt       | lent       | mill       | pine       | sing       | sink       |
|            |            |            |            | pent       | pill       | tine       | wing       | wink       |
|            |            |            |            | rent       | sill       | vine       | zing       | inky       |
|            |            |            |            | sent       | will       | wine       |            |            |
|            |            |            |            | tent       | bill       |            |            |            |
|            |            |            |            | vent       |            |            |            |            |
|            |            |            |            | went       |            |            |            |            |

| <u>ite</u> | <u>oat</u> | <u>ock</u> | <u>ome</u> | <u>one</u> | <u>ope</u> | <u>ore</u> | <u>ote</u> | <u>own</u> |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| bite       | boat       | cock       | come       | done       | cope       | bore       | note       | down       |
| cite       | goat       | dock       | dome       | lone       | dope       | core       | rote       | town       |
| kite       | coat       | lock       | home       | bone       | lope       | fore       | tote       | gown       |
| mite       | moat       | mock       | some       | gone       | mope       | lore       | dote       | sown       |
| lite       | oats       | rock       |            |            | rope       | more       | vote       |            |
| rite       |            | tock       |            |            |            | pore       |            |            |
|            |            | sock       |            |            |            | sore       |            |            |
|            |            |            |            |            |            | tore       |            |            |

PREFIXES AND SUFFIXES

Prefixes

| <u>de</u> | <u>dis</u> | <u>en</u> | <u>ex</u> | <u>con</u> |
|-----------|------------|-----------|-----------|------------|
| defeat    | disown     | enjoy     | exact     | concur     |
| detour    | disobey    | enlist    | exceed    | concede    |
| deform    | disagree   | enact     | excite    | conclude   |
| decade    | dislike    | enroll    | excuse    | confuse    |
| demerit   | disloyal   | entitle   | exhale    | conform    |

| <u>com</u> | <u>in</u> | <u>pro</u> | <u>re</u> | <u>un</u> |
|------------|-----------|------------|-----------|-----------|
| complete   | inhale    | proceed    | recall    | unable    |
| comply     | inside    | project    | renew     | unfit     |
| combine    | indent    | program    | remake    | untrue    |
| compound   | incorrect | produce    | reopen    | unlace    |
| compact    | informal  | prolong    | refresh   | unpack    |

pre

preview  
precede  
prepay  
prewar  
prepaid

Suffixes

| <u>al</u> | <u>ance</u>  | <u>able</u> | <u>ive</u>  | <u>ful</u> |
|-----------|--------------|-------------|-------------|------------|
| postal    | allowance    | suitable    | active      | careful    |
| optical   | assistance   | portable    | detective   | handful    |
| critical  | acquaintance | available   | defective   | painful    |
| comical   | disturbance  | payable     | destructive | helpful    |
| personal  | appearance   | obtainable  | excessive   | joyful     |



Suffixes (continued)

| <u>y</u>    | <u>tion</u> | <u>ing</u> | <u>ment</u> | <u>less</u> |
|-------------|-------------|------------|-------------|-------------|
| airy        | action      | being      | payment     | careless    |
| rainy       | adoption    | ending     | amazement   | useless     |
| rocky       | edition     | going      | excitement  | worthless   |
| sleepy      | election    | earning    | employment  | helpless    |
| frosty      | direction   | feeling    | pavement    | fearless    |
| <u>ness</u> | <u>ly</u>   | <u>ous</u> |             |             |
| blindness   | sickly      | joyous     |             |             |
| darkness    | kindly      | dangerous  |             |             |
| likeness    | yearly      | perilous   |             |             |
| sadness     | costly      | poisonous  |             |             |
| goodness    | lively      | pompous    |             |             |

EXAMPLES OF WORD BUILDING EXERCISES

A  
AL  
ALL  
TALL  
TALLY

A  
AL  
AIL  
TAIL  
TRAIL

A  
AN  
PAN  
PANE  
PANES

A  
AN  
AND  
ANDY  
CANDY

A  
AN  
BAN  
BAND  
BLAND

A  
AN  
RAN  
RANK  
FRANK

A  
AS  
ASP  
RASP  
GRASP

A  
AT  
ATE  
LATE  
PLATE

A  
AT  
OAT  
GOAT  
GLOAT

A  
AT  
RAT  
RATE  
GRATE

I  
IT  
BIT  
BITE  
BLITE

I  
IN  
BIN  
BING  
BINGE

I  
ID  
SID  
SIDE  
ASIDE

I  
IN  
SIN  
SINK  
STINK

I  
IN  
TIN  
THIN  
THING

BE  
BEA  
BEAR  
BEARD

ED  
RED  
REED  
GREED  
GREEDY

HE  
THE  
THEE  
THERE

NO  
NOT  
NOTE  
NOTED

ON  
ONE  
LONE  
ALONE

OR  
FOR  
FORE  
AFORE

TO  
TOP  
STOP  
STOOP

RHYMING WORD LISTS

ate  
rate  
mate  
date  
plate  
grate  
state  
great  
wait

at  
sat  
mat  
hat  
rat  
that  
flat

ton  
son  
won  
done  
none  
one  
fun  
pun  
sun

in  
tin  
sin  
pin  
thin  
shin  
skin  
win  
chin

heat  
meat  
seat  
eat  
treat  
wheat  
sweet  
meet  
tweet

or  
nor  
tore  
bore  
door  
poor  
shore  
store  
pour  
soar  
floor

set  
net  
let  
met  
pet  
fret  
bet  
wet

dine  
line  
mine  
shine  
whine  
nine  
fine  
pine

"AND" WORDS

|        |        |        |
|--------|--------|--------|
| BAND   | BLAND  | CANDY  |
| HAND   | BRAND  | DANDY  |
| LAND   | GLAND  | CANDLE |
| SAND   | GRAND  | SANDAL |
| WAND   | STAND  | PANDA  |
| WANDER | STRAND | VANDAL |

"ING" WORDS

|      |        |        |
|------|--------|--------|
| KING | BRING  | FINGER |
| RING | FLING  | SINGER |
| SING | STING  | MINGLE |
| WING | STRING | SINGLE |
|      | THING  | TINGLE |
|      | WRING  |        |

SENTENCES EMPLOYING COMMONLY  
USED TWO-LETTER SEQUENCES

The clown slid and stumbled.

When the floppy-eared, brown hound growled,  
the children laughed with glee.

The clapping stopped short.

Ernest dropped in while you were talking on  
the phone.

Place your phosphate on the table.

Creepy, crawly creatures went winding around  
the trees.

He is silently sleeping.

Twelve of them have teeth.

**COMMON-KEY EXERCISES**

(These exercises are to be used only  
after the entire "Cybercode"  
has been taught)

**COMMON-KEY LETTER COMBINATIONS**

The following are letter combinations in which the fingering of the "Cybertype" code changes for only one hand. That is, in typing these letter combinations, the same key is depressed for each letter within a specific group (i. e. Control Key No. 1 is depressed for all combinations within Group A; Control Key No. 2 is depressed for all combinations within Group B, etc.)

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Common Left-Hand (Control) Key

Group A

eo

et

ot

nt

at

it

ai

in

ni

ti

to

an

te

en

on

no

tion

Group B

sc

sh

sl

sm

ch

cl

dr

rd

Group C

uf

ub

ug

up

gu

pu

fu

bu

fy

by

py

gy

B-106



*Cybernetics Research Institute*

The following is a series of letter combinations in which a common right-hand key is depressed for each group of paired letters (i. e. for "ur," right-hand key No. 1 is depressed for both letters; for "co," right-hand key No. 5 is depressed, etc.).

Common Right-Hand Key

|    |    |     |
|----|----|-----|
| ur | th | ad  |
| es | ph | ay  |
| ef | ng | day |
| co | ln | im  |
| ob | gl | wi  |
| oc | da | mi  |
|    |    | ix  |